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Economical Housekeeping.

HANDBOOK OF HOUSEKEEPING FOR SMALL INCOMES.

800 P. 85

BY
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THE
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INTRODUCTORY.

It is too commonly supposed that a knowledge of house-keeping is one of Nature's free gifts to women. Would that it were so! Unfortunately it is not, although no doubt Nature has bestowed on some women an innate faculty for domestic management which others lack. Whether they have this faculty or not, however, most women are obliged to undertake housekeeping and to hold the domestic reins.

Those who take up these figurative reins with no more practical idea on the subject than "Rosamond," in *Middlemarch*, who "thought that good housekeeping consisted simply in ordering the best of everything, nothing else 'answered,'" will in all probability come to the same grief that she did unless they belong to that fortunate class whose banker's balance is always a big one, or unless they take the trouble to study the elementary principles of household management.

This volume is intended for those who have to begin this study, and particularly for those who have to begin it upon a limited income.



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Economical Housekeeping.



CHAPTER I.

INCOME AND HOUSEHOLD EXPENDITURE.

“Without economy none can be rich, and with it few can be poor.”

—DR. JOHNSON.

“ALWAYS live within your income, even if you have to borrow money to do so,” was Artemus Ward’s advice to young couples commencing housekeeping on their own account. Inexperienced people, who begin married life on a small income, without first making a methodical arrangement as to how it shall be spent, will undoubtedly find themselves before long obliged to adopt the American humorist’s plan for enabling them to keep within it, always supposing that some obliging person is at hand to lend them the cash to make up their deficiencies. There are no facts more surprising to those who have not been accustomed to managing an income and paying bills than the swiftness with which money seems to melt away, when the bills for the apparently trifling items of daily household

expenditure come to be paid, and the extraordinarily big sum that little unconsidered trifles of pennies, sixpences, and shillings will total up to in a very few weeks.

Experience of the miseries of debt and the torment of duns will in time probably teach young housekeepers the necessity for method in the spending of money; but such lessons are very bitter in the learning, and are very dearly purchased. They may be avoided by those who, before marriage, take the trouble to map out carefully how their income is to be spent, and who, after marriage, have the resolution, involving, as it will be sure to do, more or less self-denial, to keep strictly to the plans of expenditure which they have resolved upon.

Although it is naturally impossible to lay down rules for household expenditure that will suit every case, still it will be helpful to draw up in detail a table which will give those who are quite inexperienced in household management some idea of the multifarious expenses that are unavoidably connected with keeping house, even on the most modest scale. It may be alarming to a young couple who have hitherto lived in the comfortable homes of their parents, and have had nothing to do with account books, weekly bills, rent and taxes, coal, gas, brooms, brushes, and all the other *et ceteras* indispensable in housekeeping, to find that all these and a hundred and one other things are necessary in ordinary everyday life, and have to be thought of, ordered, and paid for by some one; but it is more wholesome for them to be alarmed by the consideration of such things betimes, than to ignore their existence, marry in haste and imprudently, and repent of their inexperience at leisure and in bitterness.

As space will not admit of a number of detailed tables of expenditure being given, I will only put down one here—a table showing how an income of £200 a year (surely the very least on which people of the class obliged to keep up a respectable appearance and have a servant should commence housekeeping upon) may be spent. Going upon something of these lines, but allowing a proportionately larger margin for each item, one can draw up a table to map out the expenditure of any income according to its size.

Table of Expenditure of an Income of £200 per annum.

Rent	£30	0	0
Food	52	0	0
Servant's wages	10	0	0
Clothing (£20 per annum for a gentleman, £15 for a lady)	35	0	0
Insurance	15	0	0
Coal	9	0	0
Gas (or oil), firewood, matches, candles	4	0	0
Washing	10	0	0
Summer holiday	10	0	0
<hr/>			
TOTAL .	£175	0	0

There remains a sum of £25 for the various items not included in the above table, but which come under the head of *Incidental Expenses*. These are—spirits, wines, beer, tobacco, medical attendance, medicines, dentistry, postage, telegrams, stationery, newspapers, books, periodicals, omnibus and railway fares, donations in charity, amusements, soap, soda, hearth-stones, brooms, brushes, house flannel, an occasional charwoman, an addition to the weekly allowance if a guest has to be entertained, repairs of furniture, locks, keys, window panes, breakage of crockery and glass. All these are expenses incidental to housekeeping and family life, and if they can be kept down the amount remaining of the £25 allowed for them should be put by in the Post Office Savings Bank as a reserve fund; for it must of course be borne in mind that the insurance provided for in the above table is only a provision for the old age or death of the bread-winner; but supposing he falls ill or loses employment, it will be very terrible if there is not a nest-egg put by for use upon such a “rainy day,” and towards this as much as possible should be saved in a Reserve Fund.

The items in this table are of course subject to modification to suit individual circumstances. The amount given for rent, for instance, is fixed on the plan of allowing one-eighth of the income for rent—this would be £25 for £200 a year;* but in the table £5 is allowed for taxes, bringing the rent to £30 per annum. People living

* Some people consider that not more than one-tenth of the income should be allotted to the rent. With an income of £200 per annum only £20 would be available for rent if this scale be followed.

in a cheap country place may get a cottage and garden for £15 per annum, but, on the other hand, in London, it will be almost impossible to get a house, including taxes, for £30 a year. The only thing that can be done then will be either to take unfurnished apartments or to save in some other particular, and add more to the sum named for rent, a difficult matter considering how moderate is the amount under each head.

Then again, a woman who can make all her own clothes and is a clever manager may contrive to dress upon £10 a year, and so save £5. One who understands cooking may train a young girl at £7 or £8 a year to be a good servant, though she will probably lose her or have to raise her wages when she becomes efficient. The amount given for coal, gas, etc., may be too much or too little, according to circumstances. It is put down at 5s. a week (£13 per annum), but the price of coal varies in different localities. In colliery neighbourhoods it is much cheaper than in other places. In a warm, well-built house, with a sunny aspect in a mild climate, less coal will be needed than under opposite conditions.

The amount spent on insurance must also be left to individual discretion. A man at 28 or 30 years of age can insure his life for £500 for about £15 per annum. Whether he should do so or not on so small an income will of course depend upon circumstances. He or his wife may have a prospect of money from relations, legacies, etc., which may enable them to dispense with this otherwise indispensable provision for the future. As to the Summer Holiday, it must also be left to the discretion of individuals. If they live in a healthy neighbourhood and are in good health they will be much wiser to dispense with it, unless they can have it free of cost by staying with friends or relations. The sum mentioned under this head may in many cases be more advantageously used towards the rent of a better house, or may be put into the Reserve Fund, or added to the limited sum allowed for weekly housekeeping. With regard to the allotment of £52 for food, it will be useful to inexperienced young housekeepers to give a table showing how far £1 a week will go upon food for three people (master, mistress, and servant).

Table of Expenditure for Weekly Food.

Meat	£0	5	6
Fish or sausages for breakfast or supper	0	1	6
Tea, $\frac{1}{2}$ lb. at 2s., or $\frac{3}{4}$ lb. at 1s. 4d. per lb.	0	1	0
Bread, 1 loaf a day at 3d. per loaf	0	1	9
Butter, $1\frac{1}{2}$ lbs. at 1s. 2d. per lb.	0	1	9
Bacon, $1\frac{1}{2}$ lbs. at 8d. per lb.	0	1	0
Eggs, 1 dozen at 1s. per dozen	0	1	0
Vegetables—potatoes, 14 lbs., 1s.; other vegetables, 1s.	0	2	0
Milk, at 3d. per quart, allowing 1 pint a day and 2 quarts for extras and puddings	0	1	$4\frac{1}{2}$
Suet, $\frac{1}{2}$ lb. at 8d. per lb.	0	0	4
Sugar, at 2d. for 1 lb. moist, $2\frac{1}{2}$ d. lump	0	0	$4\frac{1}{2}$
Jam, marmalade, tea-cake, etc.	0	0	6
Cheese	0	0	6
Condiments, vinegar, salt, mustard, etc.	0	0	5
Flour, rice, sago, currants, etc., for puddings	0	1	0
TOTAL	£1	0	0

The allowance of 5s. 6d. for meat will no doubt seem very meagre, but with an allowance of but twenty shillings a week it cannot be exceeded, unless by omitting or very much reducing some equally necessary item from the list.

The following tables will show how 5s. 6d. can be made to provide meat for three people's dinners every day for a week, but it can only be done by those who will use New Zealand meat, against which a ridiculous prejudice exists in the minds of many people, who nevertheless often eat it quite contentedly if they have paid the price of English meat for it and purchased it from a butcher who scornfully declares he would not keep "foreign meat." Tables for dinners for four weeks, at 5s. 6d. per week for meat and fish required for the dinners, are given here in order to show how far this small sum will go in purchasing meat, the most expensive article in housekeeping, and also to suggest the variety, so good for health and digestion, which can be procured for that sum.

FIRST WEEK.*

Four pounds of corned beef for boiling, at 8d. per lb. (at some shops it can be purchased for 7d.), 2s. 8d. This should give three days' dinners, viz.:—

Sunday.—Boiled beef and carrots.

* Each dinner should of course also include potatoes, vegetables, and a substantial pudding.

Monday.—Cold boiled beef, with soup from liquor in which beef was boiled, and remains of vegetables.

Tuesday.—The remainder prepared as Bubble and Squeak.

Wednesday.—Stewed steak. 1 lb., 9d.

Thursday.—Remainder of soup from Monday.* Fish, at 4d.—*i.e.*, one large mackerel, grilled, or four fresh herrings, or two or three whiting, etc., according to season and price in market; suet pudding; shepherd's pie from remnants.

Friday.—2 lbs. of scrag end of neck of mutton, at 4½d. (sometimes for 3d.) per lb., 9d. This is the usual price of *English* meat, which is best for boiling. There is a great deal of bone in this part, which of course accounts for its being so cheap, but the water in which it is boiled will make excellent broth.

Saturday.—Liver and bacon, or a Beef heart stuffed and baked. Calf's liver, 1 lb. at 9d., 3 slices of bacon, 3d., 1s. Heart costs about 3d. per lb.; one of four pounds will cost 1s.

Total for week, 5s. 6d.

SECOND WEEK.

Fore-quarter of New Zealand lamb, at 5½d. per lb. Weighing 7 lbs., it will come to 3s. 2½d. (This joint can be had for this price in London and most big towns at all large provision warehouses.) This joint should last for at least four days.

Sunday.—Roast shoulder of lamb (the shoulder should be cut off small).

Monday.—Cold lamb, mint sauce, etc.

Tuesday.—Breast and scrag end of neck of lamb stewed with vegetables.

Wednesday.—Best end of neck of lamb roast. (In hot weather this must be used on Monday, and the cold meat, kept carefully covered, can be used later, or grilled or minced.)

Thursday.—Soup from lamb bones, sausages and mashed potatoes, suet pudding. Sausages, 1 lb., 7½d. Suet allowed for in weekly list.

Friday.—Three pork chops, 1s., or half of a pickled pig's head boiled. This at 3d. per pound (usual price at large shops) will be 1s. for half a good-sized head. The remains can be used for breakfast, cold.

Saturday.—Haddock stuffed and baked, or 2 lbs. of cod or ling at 4d. per lb., in a fish and potato pie or fricassee, the sauce of which will make the fish to go further than if it were simply boiled.

(A "beef's head" may be substituted for the lamb in this week's Table. It costs from 2s. to 2s. 6d., and should give three dinners. See section on Economical Cookery for recipes for cooking it. It is a very cheap and good dish.)

Total for week, 5s. 6d.

* Soup, unless in very sultry weather, will keep for several days if boiled up each day and poured from the saucepan into an earthenware pan at night. It must not be left in the saucepan all night or it may turn sour.

THIRD WEEK.

Shoulder of mutton, 6 lbs., at 6d. per lb. (see note on New Zealand mutton, p. 84), 3s.

Sunday.—Roast mutton.

Monday.—Cold mutton.

Tuesday.—Remainder of mutton hashed, or minced, or curried, with rice, or made into rissoles or into a shepherd's pie. (The dripping from this joint must be carefully saved and clarified (see p. 98), and kept for cooking purposes, as frying, etc.)

Wednesday.—Stewed cowheel and onions. Cowheel, 8d.

Thursday.—Boiled bacon or pickled pork and beans or greens. Bacon or pork, 1 lb., 8d.

Friday.—Six fresh herrings broiled, 6d., or 1½ lbs. cod at 4d. fricasseed; suet pudding. Suet allowed for in list.

Saturday.—Stewed beef kidney, $\frac{3}{4}$ lb., 8d.

Total for week, 5s. 6d.

FOURTH WEEK.

Brisket of beef stewed with peppercorns, and vegetables; thick gravy. 6 lbs. at 5d. per lb., 2s. 6d.

Sunday.—Stewed beef.

Monday.—Beef, either cold or reheated in remains of thick gravy.

Tuesday.—Ditto (or to avoid the same dish three days running, put it by in covered dish till Wednesday and substitute dinner given for Wednesday on Tuesday).

Wednesday.—Veal cutlet and bacon, $\frac{3}{4}$ lb. veal cutlet, 9d. (can be got at many butchers at 1s. per lb.), bacon, 3 slices, 3d., 1s.

Thursday.—Pickled pork and cabbage, 1 lb. of pork, 8d.

Friday.—Curried scallops and rice border, 8 scallops, 8d., or (if scallops are not in season) baked fish and potato pie or fish stew, using fish costing 8d. Suet pudding.

Saturday.—A dozen sheep's trotters stewed, with parsley sauce; cost 8d. per dozen. Must be ordered beforehand.

Total for week, 5s. 6d.*

From these tables it will be seen that one sovereign may be made to provide comfortably (though certainly not luxuriously) for three people with moderate appetites for a week, giving them a different menu every week, but

* In the section on Economical Cookery recipes for all these dishes are given, and many others, with numbers of hints on the economising of food.

it can only be done by very good management. It must, however, be borne in mind that men's appetites vary considerably. Some men eat as little as women, others much more. The dinners in the tables just given are arranged for a man with a small appetite; if the housekeeper has to provide for a man who requires more (and some would need almost the entire amount allowed for the three people), she must have more money. In such cases it will be absolutely necessary to allot more than £1 per week for housekeeping. This can be done by altering the first table of expenditure, and leaving out or curtailing the allowance for some of its items.

Nothing can be taken from the sum put down for rent, that is quite certain, nor from the servant's wages, for even if the young couple could do without a servant they would want a charwoman sometimes, and as the ten pounds allowed for wages is only 3s. 10 $\frac{1}{4}$ d. a week, occasional help of that kind (when beer money, etc., is considered) comes to pretty nearly as much. If the washing be done at home something out of the £10 allowed under that head may be saved, but when the cost of materials for washing, firing, and time is paid for it cannot be very much. A trifle might be saved from the £35 allotted for clothing, but it would be very improvident to give up the £15 for insurance to provide extras for the table, and as the sum allowed for coal, gas, etc., is very low, there remains but the "summer holiday" that can be appropriated for housekeeping purposes. If the £10 set down for this be added to the weekly house-money, two prime joints of roast beef at 8s. 4d. each may be added to the bill of fare every month, and probably two or three good dinners of roast beef regularly every fortnight will, in the end, do a man's health more good than a fortnight's holiday in summer. It will be easily seen from the dinner tables and their prices given above that joints of roast beef cannot be paid for out of 20s. a week house-money. Beef, on account of its large bone, and close texture, weighs heavily, compared with joints of mutton of the same size, and small pieces are wasteful for roasting, as by that method of cooking so much more of the weight is lost than by any other, therefore beef for boiling or stewing only is given in the tables, as cooking

by either of these means is more economical than roasting; but if the manager has a little more latitude, even to the extent of 16s. 8d. a month, she can afford a joint of beef for roasting, or a large leg of mutton or pork every other week, and this will make a great difference in comfort when a man with a hearty appetite has to be fed. Sirloins or ribs of English beef (these are the prime joints for roasting) can be had from 10d. to 1s. per lb. The same joints of American or other foreign beef can be had from 8d. per lb. It is well to remember, when ordering a joint, to tell the butcher to cut it as nearly as possible to the number of pounds required. If this is not done he may send a joint weighing $\frac{3}{4}$ or 1 lb. heavier than the amount allowed for, as it is always possible to cut a little more or less when severing the joint. When the weekly allowance is strictly limited, the difference of a pound in the weight of the joint will throw the housekeeper's calculations out. If the addition of the "summer holiday" money adds a large joint every second week to the bill of fare, the sum allowed in the table for that week's joint can go into the next week, thus a good joint can be provided each week. If still this does not suffice to satisfy the appetites of the family, the only thing to do will be to save as much as possible out of the clothing allowance, and a little out of the washing (if the gentleman of the household will wear flannel shirts,* a saving can be effected under this head without sacrificing health to economy), and as much as possible also out of the £25 set aside for "incidental" expenses. By limiting letter-writing, amusements, books, newspapers, periodicals, and such-like pleasant foods for the mind, more food for the body can of course be provided; but many people will think that the limitation of these things would be the greater deprivation of the two, therefore, for the disciples of the doctrine of "plain living and high thinking" it is well to point out that *it is quite erroneous to suppose that heavy joints of meat, or meat every day, are at all necessary for health.* Many strong, healthy people never eat meat at all. It is a fact, demonstrated by the late Dr. Parkes's

* Any one can wash and do up flannel shirts and linen collars at home with very little trouble (see pp. 93, 95). It makes a great difference in laundress's bills if several linen shirts go every week to the wash.

experiments on hard-working soldiers, that a strong man can retain his health and strength and do hard work on oatmeal and milk at a cost of not more than 9d. a day.

A considerable saving of money, with no loss of health (it would indeed be a false economy to save in a way that entailed injury to health), may be effected by using such nutritious articles as macaroni, haricot beans, and lentils as substitutes for, or additions to, meat. Authorities so eminent in the science of dietetics as Sir William Roberts and Sir Henry Thompson tell us that these things contain exactly the same nutritious properties as butcher's meat. This ought to be welcome news to people with limited incomes. They will find that a single slice of meat accompanied by two or three spoonfuls of macaroni stewed in gravy, or haricots or lentils fried in dripping, will make as satisfying (and we may rest assured it will be as nutritious) a meal as one entirely composed of meat. That it will be much more economical than the latter goes without saying.

In the table of weekly food expenses 1s. has been allowed for eggs. In the summer eggs can be had at from 16 to 24 for 1s., therefore in those months sixpence a week may be used to provide eggs and the other sixpence devoted to fruit. In the same way people who don't object to margarine could effect a saving by substituting it for butter. The 1s. allotted to potatoes may be curtailed to 6d., and the other 6d. used for haricots, macaroni, or lentils. A knowledge of economical cookery is absolutely necessary for the young housekeeper who wishes to combine economy with comfort. To be able to do this is the acme of good housekeeping, at which all housewives should aim. Cheap and appetising soups, substantial but inexpensive puddings of rice, suet, etc., will enable the judicious manager to satisfy her family's hunger whilst keeping her butcher's bill down to the lowest point; and these dishes should accompany every dinner, particularly on those days when a light meal of fish, sausages, etc., is provided. The young housekeeper whose weekly allowance is but twenty shillings *must* see after things herself, *must* do her own marketing, and *must* learn at which shops and in what localities comestibles can be most reasonably procured. It is a fact that in many

shops in all large towns the same article can be purchased at a penny or more per pound cheaper than at other shops in the same town. This is natural, without any charge of unfair dealing being brought against the shopkeeper, because if he has to pay high rent, rates, and taxes for a shop in a good position, he cannot sell as cheaply as one who lives in a neighbourhood where such expenses are low. Therefore it behoves the housekeeper with a limited income to find out at which shops she will effect the most saving. In neighbourhoods where wealthy people principally dwell people with very small incomes are hardly catered for at all. The tradespeople only think of their rich customers, and it is not worth their while to provide for those who have to weigh and consider their sixpences before they spend them. A fact which came under the writer's observation shows this. A lady who had resided in Notting Hill moved with her household to a fashionable quarter in South Kensington; being fashionable, it was also more expensive than the *bourgeois* locality of Notting Hill. This was discovered by the lady's domestics when they were put upon their usual board wages when their mistress went out of town, and they found that it repaid them for their trouble to make a journey to their former purveyors in the western quarter, where things were much cheaper than in the fashionable shops in the locality to which they had moved. The addition of a penny to every pound of food used by a family will in a year swell into an alarming number of pounds. We all know the proverb, "Take care of the pence, and the pounds will take care of themselves." The careful study of prices in the different shops in her vicinity is then commended to the notice of the housekeeper who is not experienced in such things.

"*Early and provident fear*," said Edmund Burke, "*is the mother of safety*," and fear of exceeding her allowance should be the guiding principle of the manager of a small one. To avoid the danger of this she *must pay all her housekeeping bills regularly every week*. This is the one and only way of keeping out of debt. Once the weekly accounts are allowed to overlap, and the expenditure for one week exceeds its income, it will be doubly difficult to make the ends meet in the following week, and when two or three

weeks get into arrears the position will become extremely unpleasant, the "quicksands of debt" will be entered upon, and they have engulfed and ruined many a family.

The one and only thing for the inexperienced young manager to do, if she finds herself on the edge of the quicksand and her expenditure getting ahead of her income, is to go to her husband, "own up," get from the "reserve fund" as much as will put her straight, and begin again the effort to live within her income, without having to "borrow money to do so."

CHAPTER II.

HOUSE-HUNTING.

IT is easy enough to *describe* what a house ought to be, but to *find* one at a suitable rent, in a suitable locality, and at the same time all that it ought to be, is a much more difficult matter. It is very necessary, however, for the benefit of the inexperienced house-hunter, to give a detailed description of what it ought to be from a *sanitary* standpoint; for, no matter what else is sacrificed in the choice of a house, the one point of paramount importance, and to which everything else should give way, is to secure a *healthy* house. Too often this is the very point least considered by a young couple starting on a pilgrimage in search of a house, therefore at the risk of being considered a "croaker," or an "alarmist," it is well to remind them of the disasters that may follow the taking of an unhealthy house. Death is not the worst evil that may come from loss of health, for with death one's worldly troubles cease. To be permanently incapacitated and lose one's employment, and with it one's means of subsistence, would be to many a much greater calamity, and it is a calamity which the taking of an unhealthy house may bring about.

And besides serious evils of this kind and grave illnesses, such as consumption (phthisis), diphtheria, scarlet fever and typhoid, it must be remembered that many minor ailments, which make life a burden to the sufferers from them, dyspepsia, anæmia, rheumatism, headaches, sore throat, loss of appetite, lassitude, and so forth, are all liable to attack the dwellers in unhealthy homes. Therefore it is of the last importance that those who are going to buy a house or take one on lease should know what constitutes a house a healthy one or the reverse; although, of course, no one

should take a house without a Certificate from a competent authority as to its sanitary soundness. Many of the details which show a house to be in all likelihood an unhealthy one are quite apparent to an ordinary observer if he or she knows how or where to look for them, while others require an expert's eye and experience to detect.

In considering the subject of a healthy house many people think it is sufficient to see that the walls are dry, the roof weather-tight, the traps in good order, and the drains perfect. These things are of course absolutely necessary in order that the house should be healthy, but they are by no means *all* that are necessary. *The soil upon which the house is built* must be a good one, or the house built upon it cannot be a healthy one. A house built on unhealthy ground, be its construction ever so good, cannot be a really healthy house, and no matter how much we look after our roofs and walls, our traps and drains, our warming and ventilation, we cannot make it a thoroughly wholesome dwelling if the ground on which it stands be not dry and wholesome.

It is now a matter of "scientific certainty," having been proved by exhaustive observation and inquiry, that residence upon ground with damp, undrained subsoil is largely productive of phthisis, and predisposes to many diseases of the respiratory organs—pneumonia, bronchitis, measles, whooping-cough, etc. In his valuable reports to the Privy Council "On the Distribution of Phthisis as Affected by Dampness of Soil," Dr. Buchanan mentions, as the result of his investigations, that in Salisbury the death-rate from phthisis fell 49 per cent.; in Ely, 47; in Rugby, 43; in Banbury, 41; and in thirteen other towns the rate of diminution, though not so marked, was nevertheless noteworthy, as entirely the result of the drying, by proper drainage, of the subsoil. "On the other hand, it also became apparent that in certain towns, such as Alnwick, Stafford, Morpeth, and Ashley, where no drying of the subsoil had been effected, there was no reduction in the phthisis rate, even though the greatest possible progress had been achieved in the removal of filth."

It was a curious coincidence that at the same time Dr. Buchanan established, as the result of accurate observations, the relationship in England between phthisis and

dampness of soil, Dr. Bowditch, of Boston, did the same in America. Though Dr. Buchanan's inquiries were concluded before the results of Dr. Bowditch's researches were known in England, they had both arrived at the same conclusion. "A residence in or near a damp soil," was Dr. Bowditch's observation as the result of exhaustive research, "whether that dampness be inherent in the soil itself, or caused by percolation from adjacent ponds, rivers, or meadows, marshes or spongy soils, is one of the principal causes of consumption in Massachusetts, probably in New England, and possibly in other portions of the globe. Consumption can be checked in its career, and possibly, nay probably, be prevented by attention to this law." If this were all, it ought surely to be sufficient to warn the house-hunter against choosing his house in a damp, marshy locality, and to make him careful, in any locality, to ascertain that the ground on which his house stands is dry and well drained; but we have also abundant evidence that dampness of soil increases the death-rate from many other diseases besides consumption. For instance, Dr. Blaxall, in his report to the Privy Council, showed that in Swindon, measles, whooping-cough, pneumonia, and bronchitis caused very many more deaths in that portion of the town situated on kimmeridge clay than in the other part placed a hundred feet higher on the oolitic limestone and sand of Portland. "During the six years preceding the investigation the death-rate from measles in New Swindon was as much as twenty times that in Old Swindon (the former is on the clay soil); from whooping-cough considerably more than double; and from pneumonia and bronchitis one-third as much again. The two towns differ very little socially, but topographically Old Swindon possesses many advantages over New Swindon, notably in its comparative elevation and in the nature of its subsoil; hence Old Swindon is far drier than New Swindon." It is also well known that croup is much more prevalent among children living in low-lying damp places than in those whose homes are in high and dry localities. Ague, neuralgia, and rheumatism are, of course, well known to result from residence on a damp soil.

There is one other point with regard to the soil on which the house is built upon which the house-hunter must be

on his guard—*i.e.*, to see that it is not what is called “made ground.” Mr. Shirley Murphy, the Medical Officer of Health to St. Pancras, an eminent authority on the subject in hand, tells us that of all the unhealthy soils upon which a house can be built, what is called “made earth” is one of the worst. “Made ground” is manufactured by filling in hollows, such as quarry holes, brick-fields, and the like, with rubbish out of countless dust-bins shot in to fill them level. “In such ground,” says Mr. Murphy, “carbonic acid can always be discovered, and bad gases are produced by the decomposition of this foul material. The air in the ground is by no means fixed and immovable. It is influenced by the action of the sun, by the density of the atmosphere, and by deeper currents of air dependent on movement of water.” He then explains that the air of a house built on such a foundation, after occupation, grows warmer than the outside air, the earth underneath shares in the warmth, air damp and foul then rises into the house (it is a law of gaseous expansion that warm air always rises, and air is a mixture of gases); in rising such air carries with it all the conditions necessary to produce ill-health. It is, unfortunately, sometimes the case that the careful house-hunter, who has discovered a house built, as he thinks, on gravel, or some other suitable soil, is really deceived by a builder’s trick, and is cheated into taking a house with a healthy soil *surrounding* it, but which is itself standing on “made earth.”

“It is well known,” says Mr. P. G. Smith, F.R.I.B.A., “that where proper regulations do not exist, builders and others occasionally dig out from the site of a new house good materials, such as sand, gravel, brick earth, or other substances that have a marketable value, and cause the excavations so made to be filled in with any rubbish that is available, often not of the sweetest kind. This is obviously liable to be highly prejudicial to the wholesomeness of the house that is to be built over such materials.”

It is naturally in the building of cheap houses, run up by unscrupulous builders, that such trickery is chiefly practised, and it is very difficult for any one who is not an expert in the matter to discover its perpetration until illness, caused by the bad air, breaks out in the house.

If a house of this kind has been taken and can't be got rid of, there is fortunately a means of minimising the danger from the rising of the bad air (and this holds good also to some extent with houses built on damp soil), and that is by having a thick layer of solid concrete laid over the entire basement. Through this the bad air cannot rise, but it is much better if this bed of concrete underlies the walls themselves, which, of course, it can only do if it is put in at the time of building, and not added after in the effort to patch up an unhealthy house. A solid bed of concrete should underlie the walls of any house if it is to be a healthy one, and into the walls what is called a *damp-proof course* should be inserted. This consists of layers of slate in cement, or of sheet lead, of asphalt, or of slabs of glazed stone ware rising above the level of the ground adjoining the wall. By these means damp from the ground is prevented from rising into the house, and the basement and walls are kept dry.

That a *Damp House is a Deadly House* is an aphorism which should never be absent from the house-hunter's mind, and there are two other causes for houses being damp besides that of being built on damp soil, which it is well for him to remember.

First.—Newly-built houses are damp. The late Sir B. W. Richardson, M.D., the eminent sanitary reformer, mentions two sad cases in illustration of the danger of inhabiting such houses until they have had sufficient time to dry. "I once," he says, "visited a new and pretty row of houses in a London suburb to see a young lady there, who was suffering from pulmonary consumption. The house was literally saturated with moisture. This patient died from the disease which had been lighted up into activity there. On making further inquiries, I found that in the same row of houses—twenty in number—there occurred, within the first two years of their occupation, six other instances of pulmonary consumption, and fourteen instances of acute rheumatic fever." The other story is of a patient "who, a confirmed cripple from rheumatic disease following upon acute rheumatic fever," gave the doctor the history of the origin of her case. Newly married, she and her husband bought a new house which,

in their desire to settle quickly, they inhabited while the walls were still bedewed with moisture. She sickened with acute rheumatic fever, and never fully recovered from its effects, and every one of her children—and she had seven—were affected with rheumatic disease, three dying from heart affections dependent upon the rheumatic constitution.

Verbum sat sapienti.

Second.—A house may be damp because it is built of bad materials, which absorb and retain moisture, or because it has imperfections or damage in roof, gutter pipes, or walls. When the cause of damp is owing to the house being built of bad materials, hardly anything can be done save to knock it down and build it up again differently. It is in the “jerry-built” house that this source of dampness is chiefly met. When the builder’s object is to build the greatest number of houses on the smallest amount of money, he naturally builds with the cheapest materials he can get,—with bricks which absorb moisture sometimes actually to the extent of one pound weight of water each! and which indeed might almost as well be so many sponges; with thick dabs of mortar made of rubbish instead of good lime and sand, and that consequently is even cheaper than bad bricks, but which perishes, as the mason calls it, very quickly, and leaves large gaps between the bricks, to be filled up with frost, snow, or rain, according to the season; and with new wood (the jerry-builder cannot lie out of his money while his wood is idling its time away seasoning in the timber yard) which shrinks in heat and swells in damp, and so causes a pleasing uncertainty as to the way the doors and windows open. Such houses freely give out moisture when the fires are lighted, so that its mist may be seen dimming the surface of mirrors and windows and rusting the fire-irons, etc. Such dimness and rust may always be taken as a danger signal denoting damp.

Though fires and sunshine may for a time dry such houses, they are always liable to be damp again when wet weather returns; and though a coating of Portland cement, slates, or other impervious substance may keep the rain from penetrating the walls, the house built of these cheap absorbent materials can never, patch it up as we will, form a really healthy home.

If imperfections in roof or gutter pipes, walls or foundation, cause the house to be damp, the sooner they are put right the better. Both concrete under the flooring and a damp-proof course can be put in after the house is built, but naturally it costs more, is more troublesome, and requires more care in the doing than if it were done at the proper time. A damaged roof and broken or injured rain-water pipes or gutters are common causes of damp walls. If they are repaired directly the damage is detected the wall or ceiling soon dries, and no harm is done, but if it is neglected the damage may be hard to remedy, and much ill-health may be caused by it.* Sometimes damp walls are caused by the gutter pipes, which convey the rain water from the roof, over-flowing. Sparrows have been known to build their nests at the head of these pipes. If the nest should be washed by the rain into the pipe, the water's flow may be impeded, then it will deluge the wall, and if the bricks are of the absorbent kind just spoken of a large area of the wall may become damp. If the head of the pipe be covered with perforated zinc, or a wire cap, such *débris* will not be able to find its way down the pipe, and this prevention is much better than cure.

Very cheap houses, and houses built by "speculative builders," who run them up in rows and sell them in blocks, should always be looked on with suspicion, and taken or bought only after careful survey by an expert. If people would only remember what a little way money goes in patching and repairing a cheap house, and in paying doctors' fees and chemists' bills for patching up the health broken down through living in it, to say nothing of the income lost through illness interfering with employment, they would see that the pretty, flashy house, too cheap to be honestly built, may end in being an extremely dear one. These are things that light-hearted *fiancées* too often forget as they wander through some pretty suburban maze of mushrooms in the shape of red brick Queen Anne villas, which have been planted without much more substantiality than so many band-boxes over the undrained, unprepared

* There is a *patent paint* which is said to exclude wet very successfully which may be tried in such cases. Any house decorator can procure it.

ground that the builder has bought cheap as a good "spec."

When people find these attractive-looking little mansions being let at abnormally low rents they may easily know, if they calculate the prices of ground, material, and labour, that they cannot be properly built and let at such prices, unless the landlord happened to be some Quixotic millionaire bent on presenting the public with houses at rents below their market value, and they may be quite sure that these houses are not "built" but are "run up" on the lightest and loosest principles, and that instead of becoming *homes*, they are much more likely to become veritable *nests of disease*.

Equal in importance to a dry house from a sanitary point of view is a properly drained house. There is no graver responsibility in taking a house than that of making sure that its drainage is in proper order. Sir B. W. Richardson has given some practical hints on this point which are worth quoting: "To carry out perfect drainage, it is essential that all pipes leading into or from a house should be within easy reach, and should be open to inspection at various places in their course. The main soil-pipe should at all times, where it is possible, be on the outside of a house. . . . To enclose a soil-pipe in a wall in such a manner that it can only be examined after days of work and a vast amount of costly destructive mischief is the worst plan that can be adopted. Clear throughout its entire course, the pipe should also be open to the air at the top, and in the lower part or basement of the house be made to enter a space which is open to the air, so that the collection or retention of gases is impossible anywhere, and so that any pressure of gas (*i.e.*, sewer gas) is equally impossible."

Sewer gas, as probably every one knows, is poisonous. When it enters a house it is followed by an evil train. Scarlet fever, typhoid fever, diphtheria, diarrhoea, blood-poisoning—which often takes the form of boils, sty on the eye, puerperal fever, etc.,—rheumatism, dyspepsia, are members of this train. Dr. Richardson's advice all house-hunters may profit by. They can inspect for themselves the direction the drain-pipes take, and thus form some idea of the system by which the house they propose to take is drained.

But this will not give them the information which it is so important to have—*i.e.*, Is the house protected from ingress of air from the sewer? “It is criminal,” says Sir B. W. Richardson, “to let disease enter any house by that hitherto grand staircase for disease, the passage from the common sewer.” Many people, however, allow it to enter simply from ignorance, because it is only an experienced and properly qualified plumber who can know if the house drain is efficiently cut off from the sewer by a reliable system of trapping. Therefore, before taking a house, a thorough inspection and report of the drainage should be made by an experienced man; and it is always better to have one who is in no way connected with the person who is letting the house. The opinion of local plumbers or workmen should seldom be relied on. By applying to any well-known firm of sanitary engineers a thorough overhauling and report can be obtained for from one to two guineas, and there is no cheque which should be more willingly signed, considering from what disasters we may be saved by the information for which it pays. If this expense be objected to, the landlord should be requested to show a report *of recent date* from the District Surveyor’s Office stating that the drainage and outfall are in proper condition. A Plan of the Drains should always be had before taking a house for any length of time.

The presence of rats in a house should always be looked upon as a danger signal. These pests are almost certain to have entered the house by the “grand staircase for disease, the passage from the common sewer,” because they work their way from the underground drain into the basement; and as their mode of work does not include closing the door they have opened, a constant stream of sewer gas is bound to follow the first visitor of their species.

Professor Corfield tells the following instructive story:—“In one instance which came under my notice there had been on several occasions cases of disease that appeared to be due to foul air in a house where the sanitary arrangements had been carefully attended to. On account of the fact that smells were observed to issue from the loose joints of the pavement in the basement, not near the drain of the house in question, but on the side remote from it, and against a neighbouring house, the pavement was taken up,

when it was found that the rats had made a channel from the drains of the neighbouring house into the house in question under the hearthstone of the kitchen grate, no doubt attracted by the warmth, and also by finding that it was the easiest way out of the drain into one of the houses. Under this hearthstone were more than a score of dead rats in all conditions of decay, from dry skeletons to recent corpses; and the reason they had found this to be the easiest way was that the owner of the next house, having experienced a considerable nuisance from his own drains, had had them and the whole basement covered with three or four inches of concrete. As he had no nuisance in his own, it was with the greatest difficulty that he could be persuaded that his drains could be a nuisance anywhere else. The drain in question was not only most imperfectly constructed, but communicated directly with the street sewer, so that the rats had opened a connection between the interior of the house, in which the owner had had everything done that was possible to put his house into a wholesome condition, and the main sewer of London!"

If any leakage from a drain-pipe into the house be suspected, there are two simple tests either of which any one can apply:—

1. *The Peppermint Test*.—Shut the windows and door of the suspected rooms. Let some one go to the highest point in the house where there is a water-closet pipe communicating with the drain, and pour down it one shilling's worth of oil of peppermint, followed by a quart of boiling water. Another person who has not touched the peppermint should then sniff at all the suspected points. If the smell is perceived it can of course only issue from a leak.

2. *Kemp's Drain Tests*.—These cost 1s. each. Any good plumber will supply them with directions for use, which are very easily carried out. It is far better, however, if a leak from drain-pipes is suspected to exist, to call in a good *registered* plumber or sanitary engineer, and have the matter properly examined. It is too serious a thing to be entrusted to amateur tinkering over.

The water supply is the third point of special importance to see to in the taking of the house. The way in which houses are supplied with water varies according to locality.

Some have it direct from the reservoir and brought into the house by pipes on the constant system (which is the best of all ways for town supply), or on the "intermittent system," by which the cistern is filled at specified times, and if wasted by accident or neglect obliges the householder to wait till the hour when the supply is renewed.

The position and construction of the cistern is very important for the storage of pure water. It is simply extraordinary the want of knowledge on this subject that we find among even intelligent, educated people, from the architects and builders of houses downwards. We find cisterns fixed in places where it is almost impossible to get at them. We find them built and boxed up as if the idea that they would ever want cleaning was the very last to be entertained by any one, and we occasionally find them placed without any covering in attics used as servants' bedrooms!

The people who build and inhabit houses with water arrangements of this description do not seem to know that water is most easily contaminated, not only by the dust and aerial impurities which may reach it out of doors, to say nothing of the cats, rats, mice, and birds whose decomposing corpses are often fished out of cisterns, but also by gases which may gain access to it. Water has an immense power of absorbing gases. The carbonic acid gas given off by persons sleeping in an ill-ventilated room will be absorbed into the uncovered cistern which has been placed in it, and sewer gas, if pipes are near the cistern, will be absorbed in the same way. Thus the water may be poisoned.

Cisterns should always be in a position where they can be easily got at. They should be closely covered with a movable cover so that no impurity, solid or gaseous, can enter, and they should be regularly cleaned out at stated intervals.* The materials most recommended for cisterns are "slate slabs, well set in cement, or galvanised iron. Leaden cisterns, unless lined with a coating of pitch, tar, or other preservative substance, are objectionable" (Wilson's *Hygiene*).

* If a house has been unoccupied for some time, the water standing in pipes and cistern should be allowed to run off and fresh to come in before use.

When water is not "laid on" from a water main it must be supplied either from a pump or a well. Wells (and pump-water if it is pumped from a shallow well) may be fruitful sources of disease if the people who live around them are ignorant and neglectful, because the surrounding soil often becomes saturated with filth, perhaps from manure-heaps, or even from cesspools into which the neighbouring houses are drained, and from which percolation through the soil takes place into the well. It is an actual fact that sometimes in country places the cesspool into which the house is drained has been found to be situated *within three feet* of the well from which the house is supplied with drinking water! Drainage from graveyards into wells is another danger to be considered if one is situated in proximity to the well.

The nature and *source* of the water supply should therefore be most carefully inquired into when taking a house for any period, and also the drainage arrangements of neighbours, if any should be near. It has frequently been found that people have bought ground and built a house and sunk a well in close proximity to their neighbour's cesspool, of which they knew nothing, because, of course, they had not taken the trouble to inquire. It is amazing that inquiry into the water supply, which should always be made *before*, is sometimes deferred till after the lease has been signed or the purchase completed. It is much safer on such occasions to have an experienced sanitary engineer to inspect the means of water supply and have the water analysed. The fee for this is well-spent money, which may save other and graver expenditure that may be entailed by neglect in this matter.

The *aspect* of the house, though not of the same vital importance as the matters already mentioned, is, particularly for delicate people, worthy of consideration, as if the house-hunter wishes to have a really healthy house, of all things next to a damp house let him eschew a dark one. If a house is both dark and damp it fulfils all the conditions needed for being truly a deadly house.

From sunlight all the forces of nature, all energy and power, are primarily derived, and those who value health should choose a house whose aspect will ensure plenty of it.

The healthy house should have no rooms which do not receive their share of sunlight. To obtain this a south-west aspect is best; then the front will have the sun in the morning and the back in the afternoon. With a full south aspect the back rooms never get any sun at all. Some people may say that "this does not matter much, as the back rooms will be used for bedrooms." As if the bedrooms stood in no need of sunlight! What a mistake! Is not the bedroom the room in which we spend at least eight hours out of the twenty-four—therefore one-third of our lives? Is not the bedroom the room in which we may spend months if we are ill? Ought it not therefore to fulfil every condition of a health-giving room much more than the drawing-room, in which at all events the working members of the family and the children spend but a very small portion, if any, of the day? Nevertheless, the aspect, height, space and ventilation of the drawing-room are much more studied by many house-hunters than those of the bedrooms or nurseries. Many people, forgetting the vast importance of light and sunshine for the young and growing, relegate the children to the attics, or take the lowest and darkest rooms for the nurseries, because "They are only for the children!"

The *locality* in which the house is situated is, of course, entirely a matter for individual selection. There are two things connected with this point, however, on which it is well to say a few words before concluding this chapter on house-hunting. First, with regard to the craze which some people of limited means have for living in a fashionable locality. They will sacrifice comfort, health, and convenience for the sake of putting S.W. on their note-paper, or to be able to refer to the great folk in the neighbouring squares as their neighbours. They don't mind crowding or crushing, sleeping in the attics, and dining almost on the stairs, if only they feel that they are living in an aristocratic neighbourhood. Like "Miss Tox" in Princess's Place, the "situation" makes up to them for everything. This may not matter for spinsters and bachelors, but for people with growing families it is very different. To sacrifice a young family to the insane desire to live in a "smart" neighbourhood when one cannot afford to pay

the rent of a good house is worse than folly. Children need air and sunshine if they are to be healthy, and it is criminal to stunt their development at the most critical period for lack of these things that could be had if their parents were sensible enough to take a roomy house in some unfashionable suburb, where no doubt the carriages of the nobility are few, but where the rooms are large and the air pure. Finally, an important desideratum in choosing a house for a professional or business man is that it should not be far from his chambers or office. In these days of quick trains, trams, etc., it is not necessary that the house should be within a walk of the place of business, but it *ought* to be within very easy distance of the conveyance to the place of business.

One often hears people say that it is a good thing to have the exercise of a long walk every morning to catch the 'bus or train: that is so no doubt as far as the walk goes, but one can always have this by going a round; but to be obliged to take it in severe weather, or when, from some of those accidents which will happen in even the best regulated families, breakfast is late, or some other delay occurs, and to have then to hurry, perhaps uphill, to catch the train, may entail serious consequences. Sudden deaths in railway stations and trains, as a consequence of violent exertion in the effort to catch a train, are not uncommon, and indigestion brought on by hurrying after meals, colds, bronchitis, rheumatism, etc., caught by sitting in a draughty carriage whilst perspiring after a rapid run, are very common indeed. These are things to remember before entering upon an agreement for a house situated at a considerable distance from the 'bus, train, or tram which is to take a man to the scene of his day's work.

CHAPTER III.

FURNISHING.

To furnish in haste and repent at leisure is sometimes the fate of inexperienced young people starting a home of their own, and such repentance may entail much heart-burning, recrimination, and discomfort, and be the fruitful manufacturer of an unlimited supply of "family jars." The less money one has in hand for furnishing the more consideration is required for its profitable outlay. Furnishing is a costly business, and it is extraordinary how little can be bought towards furnishing a house comfortably with one hundred pounds. It must be remembered that, besides the chairs and tables, bedsteads and wardrobes, mirrors and pictures, cabinets and bookcases, sideboards and sofas, which are the large items that are chiefly thought of when house-furnishing is contemplated, there are all sorts of "unconsidered trifles," which are indispensable to comfort, and which must be provided. Carpets and oil-cloth, curtains and blinds, fenders and fire-irons, curtain poles, stair carpets, washstands and their belongings, bed and table linen, blankets and counterpanes, towels and dusters, crockery, cutlery, and glass, cooking utensils, hot-water cans, baths, coal scuttles, brooms, brushes, candlesticks, lamps, pails, tubs, knives and forks, trays, and kitchen furniture are all needed in houses of the most modest pretensions, and a considerable margin must be left for them, as the

purchase of all these things comes to a very alarming sum if their cost has not been carefully calculated and allowed for beforehand. For this reason it is well not to spend straight away all the money allotted for furnishing, but to wait till housekeeping actually begins and some experience is gained.

Selection of Furniture.—It is especially necessary in the selection of furniture to bear in mind a point which, in this connection, is often forgotten—*i.e., the number of servants to be kept.* Some sorts of furniture take much more time and trouble to keep clean than other kinds. For instance, dining-room chairs with intricately carved frames and buttoned seats will take a great deal of time to keep clean. All the chinks and corners of the carving have to be dusted and polished with minute attention, otherwise they will look dirty and neglected. Highly ornamental brass or steel fenders also require much time to keep properly bright. If only a cook and house-parlour-maid are kept it will be a great addition to their multifarious duties to be obliged to devote attention to furniture of this description, and more often than not they will neglect it. Unless there are a sufficient number of servants to do the cleaning thoroughly and properly, it is infinitely wiser to choose plainer articles, which do not require a vast expenditure of time to keep them in nice order. Big mirrors, elaborate draperies, ornate electro-plated table requisites, should all be avoided by those who have only one or two servants. Can anything be more undesirable (to use a mild word) than a mantelpiece surmounted by a broad sheet of looking-glass thickly coated with dust, or windows and doors draped with puffings of muslin or cretonne evidently in need of a visit to the laundress? And surely any one with the smallest sense of the fitness of things will prefer clean crockery, be it of ever so humble a kind, to tarnished, dirty electro-plate!

Cheap and flashy "suites" and "sets," advertised as "great bargains," will be found very dear in the end. They are generally, like the cheap houses mentioned in the last chapter, "run up" from unseasoned wood. They look very attractive, but when they are brought home and subjected to the influence of a warm room, they betray their real nature by creakings and crackings as the wood shrinks or swells, and frequently their component parts come asunder when least expected. It is very much better, if it is not possible to buy furniture from a thoroughly reliable maker (and such, of course, is expensive), to take the trouble of finding out when auctions of good furniture take place,* and buy really good second-hand things. At many respectable furniture brokers good second-hand articles can often be bought; but as there is a great demand for such things, unscrupulous dealers often try to palm off new rubbish to inexperienced people as "second-hand." The advice and assistance of some shrewd friend is therefore of great value when a shopping expedition of this kind is undertaken.

Great care should be exercised in buying second-hand upholstered articles, as they may be infested in the folds with moth, or even more to be dreaded pests; and such things have sometimes been sold from houses where there have been infectious illnesses. Second-hand carpets and bedding should, if possible, never be bought.

All second-hand things should be *thoroughly* examined before they are paid for, to make sure that they are not infected with dry rot or worm-eaten, that they are not cracked, worn, or broken in the parts least exposed to

* Sometimes great frauds are perpetrated at auctions by dishonest people, who either hire a good house for a few weeks, fill it with rubbish, and auction it as if it were the good furniture of a respectable family, or being entrusted with the auctioning of a really good house, send a quantity of cheap trashy articles in to be mixed up and sold with the furniture of the house.

view, and that, in the cases of articles with drawers or doors, these open easily and are provided with keys. A wrinkle worth remembering is, in doubtful cases, *never pay for such things before delivery*. In the crowded and often dark shops of furniture brokers it is sometimes impossible to examine one's purchase thoroughly, therefore order it to be sent home *in the morning* (so that it may be inspected by daylight), and let the messenger wait until it has been examined. If it is not satisfactory it can be returned. No law exists to oblige people to take and pay for anything which on second thoughts they do not approve of, hence the importance of not paying until a close examination has been instituted. Once payment has been made redress is well-nigh impossible, and certainly cannot be had without vast trouble, if at all.

It is much better for people commencing housekeeping to take their house before they buy any furniture, or at all events not to buy large articles or specially shaped ones until they are sure they have space suitable for them. Young couples contemplating marriage have often "picked up" bargains (generally from friends anxious to get rid of them) in the way of big sideboards, bookcases, etc., which, when the house was afterwards taken, they found to be like the proverbial white elephant. Big furniture has, fortunately, to a great extent gone out of fashion, and so also has the dreadful practice of crowding rooms with a quantity of unnecessary objects. It is very important to remember, *particularly in the case of bedrooms*, that every article in a room occupies so much *air space*. Now, though pieces of furniture do not consume air as human beings do, they occupy the space that otherwise might be occupied by air, *and so diminish the air supply in the room*. This is why small rooms crowded with furniture become so unbearably stuffy.

Bedrooms.—With regard to the furnishing of bedrooms, it ought never to be forgotten that in the bedroom we spend at least one-third of our lives, therefore it is extremely important that the bedroom should be a healthy room—to this end every bedroom should have a fire-place with an *unclosed register* (i.e., the register, when the fire is not lighted, should be open, not tied up to exclude chance

particles of soot and dust according to the habit of some careful housewives, who forget that at the same time they are excluding all chance of proper ventilation for the room by closing that valuable "ventilating shaft," the chimney). It should also have a window, or windows, opening top and bottom (which is necessary for efficient ventilation), and be furnished in a way that will allow of its being easily kept clean. There is a special reason for this latter, which many people forget when they furnish their bedrooms; it is that the bedroom is always liable to become a "sick-room" if the occupier of it should fall ill. Now, to turn an ordinary bedroom into a properly equipped sick-room is easy or impossible according to the way the room is furnished, always supposing that it has a fire-place, and window that will open top and bottom, without which the ventilation so necessary in a chamber of illness will be unattainable. If it has these it can be converted into a room in which any kind of illness may be hygienically nursed, provided it be furnished as every bedroom ought to be furnished for health's sake. *It should not have a carpet nailed down all over the floor.* In some bedrooms one finds the carpet fitting into all the corners, going therefore entirely under the bed and under all the heavy pieces of furniture, such as the wardrobe, etc. When the room requires cleaning a twig and plenty of tea leaves and sweeping are needed to remove the dust from the carpet, and it is needless to say that when a person is ill in bed there is hardly anything more irritating to them than this process. The substitution for it of rubbing the carpet all over with a damp cloth, which is sometimes tried in the sick-room, does not do away with noise, does not properly remove the dust, and if carelessly done, often leaves the carpet quite damp.

A healthy bedroom should have its floor either parquettèd, painted, simply stained, or its boards merely scrubbed white and clean, and over this rugs, mats, or squares of carpet should be laid. The advantage of this plan is that whenever the room needs cleaning it is only necessary to roll up the rugs and take them to the yard to be beaten or shaken; the floor then can be swept thoroughly and quickly, and in case of illness it can be wiped all over

with a soft, slightly damped cloth, which removes the dust without the necessity for the hard rubbing imperative to be used when the dust has to be taken off a carpet. The floor under the bed can be wiped without disturbing the most fidgety patient, and the corners can be cleaned without the "swishing" of a twig. Setting aside the idea of illness, this way of carpeting a room has the great advantage of preventing the raising of clouds of dust during sweeping. No matter how good a wardrobe may be, dust swept into the air (and no amount of tea leaves quite keeps it down) will penetrate into it and make its way into the clothing kept in it.

If infectious illness has to be nursed in a room carpeted with rugs or movable squares, they can be taken away and replaced by a few cheap strips of Dutch carpet laid down for quietness' sake, and which can be destroyed afterwards; but if it has a large carpet all over the floor, it will be a troublesome job to get it up, and if left down it may have to be destroyed after the illness, or purified by an expensive and perhaps injurious process. Bedrooms will be sweeter, fresher, and more easily kept clean if curtains and hangings of washable material only are used. Cane-bottomed chairs are much preferable for bedrooms to upholstered chairs, and a wicker easy-chair with loose cushions in linen cases and covered with slip covers of chintz or cretonne is much nicer for bedroom use than a chair upholstered in woollen stuff.

Chintz, which is very serviceable, and can be calendered to look like new almost as long as it lasts, or dimity are better for bedrooms than cretonne, unless this is of a kind that will stand washing. In choosing cretonnes it is safer before buying a quantity for curtains, covers, etc., to bring home a small piece and wash it. If it washes well it may be safely bought.

In nicely furnished bedrooms the window curtains, couch and chair covers, and bed-spread or counterpane should be of chintz, dimity, or cretonne of the same kind; the carpet or rugs and wall-paper should harmonise, or contrast pleasingly, not startlingly, with them. For instance, various shades of pink will harmonise with a crimson or terra-cotta carpet; daffodil or buttercup coloured hangings

will contrast with a moss green or deep brown and terra-cotta carpet; grey and white wall-paper will be relieved and warmed by rose-coloured hangings and covers. Care and taste in these matters will produce a prettier bedroom at a small cost than a great outlay in expensive articles.

There is one item of bedroom furniture upon which it is unwise to be parsimonious in the purchase, and that is the *bedding*. One of the greatest luxuries in life, and the one which people should least grudge themselves, is a *good bed*. Proper rest and good sleep contribute to longevity. If the body is well-cared for it will, like any other machine, last longer and do much better work than if it be neglected and ill-used, and a bed that conduces to such rest and sleep contributes to the health of its possessor; therefore in furnishing, of all things let thoroughly good bedding be provided, no matter what else has to be done without. The best, most comfortable, most healthy, and most durable of all beds are those with a mattress of curled horse-hair. If this mattress lies on a *spring bed*—that is, a deep case covered with ticking containing coils of copper wire springs—it will constitute the most luxurious bed that it is possible to have. This will be a rather expensive bed as far as first cost goes, but it will be the cheapest in the end, because it will last for a lifetime. If, after years of lying upon, the springs sink in the middle, they can always be repaired at small cost, and the curled-hair mattress at the end of twenty years' service can be *teazed* and recovered with ticking, and will then be practically new. For a double bed this kind is much better for comfort and use than the metal chainwork kind, which is very good for single beds, but is apt to get loosened in wear, and to sink in the middle when two people sleep upon it. The chainwork can, however, be wound up tight again when it has grown slack.

If the curled-hair mattress and the enclosed spring cases are beyond the means of the furnishers, the next best bed is a wool mattress on a metal chainwork (sometimes called woven wire) frame. This is infinitely better than the old-fashioned straw palliasse, which always makes a hard bed

and is never so clean and healthy as the sheet of woven wire. Feather beds are very warm in winter, but are not so healthy as hair mattresses, because feathers absorb and retain the exhalations from the body, and a feather bed therefore can never be as pure and wholesome as a spring bed. In cases of illness, when the bed cannot be made every day, a feather bed will become lumpy and miserably uncomfortable, whereas people have lain on the woven wire beds for many weeks without being moved and without the bed becoming hard or uncomfortable. Iron bedsteads are much better than wooden ones, which have now almost gone out of use.

As to the *cost* of bedding, as already mentioned, good bedding is always expensive. Those who have but a limited amount for furnishing will do well to write for Catalogues and Price Lists to several furnishing warehouses and compare the prices. Beware of buying *very cheap spring beds*. These are exceedingly likely to get out of order very soon, and then the springs, bulging out in all directions, will make the unfortunate occupants of the bed repent of their bargain, and mending a cheap spring bed will be found a very unsatisfactory business. This is well to bear in mind when the temptation to buy a handsome brass bedstead with a cheap wire mattress is held out to the inexperienced. It is better to have a plain black iron bedstead with a really good spring bed than a showy bedstead and a mattress upon which one wakes up at night imagining one has been encamping upon the broken sleepers of a railway track.

For very poor people excellent beds can be made of *oat-chaff*. Stout ticking cases filled with chaff can be procured very cheaply. They are clean, wholesome, and if not filled too full will be soft and comfortable.

Much may be done to preserve bedding by making loose covers of linen or cotton twill for every mattress, or even by tacking strips of unbleached calico over the sides of the mattresses, which are apt to be soiled in the daily process of bed-making. Sheets of stout paper laid over the iron framework and over wire mattresses will preserve the ticking covers from rust stain.

Unnecessary articles of furniture should be particularly

avoided in a bedroom, and so too should a number of ornaments, as these things take a great deal of time to dust and keep clean. If the bedroom has to be converted into a sick-room, all useless things, especially those liable to be knocked down or upset easily, should be banished from it.

In a small room space (and furniture) may be economised by a little ingenuity. For instance, a very good imitation wardrobe may be extemporised at a trifling cost by enclosing a corner. It is done by providing a triangular-shaped piece of wood, about three feet in depth in its widest part. This must be fixed into the corner about five or six feet from the ground, the apex (*i.e.*, pointed end) of the triangle going into the corner, the two sides against the wall, and along the base (or end facing the apex which fits into the corner) should be fixed a little rod, or a stout cord, with some rings slung on it; from these rings a curtain is hung, and along the walls under the triangular shelf hooks are fixed. A corner enclosed in this way may be made to hold as many garments as a large wardrobe, and if the curtain be kept closely drawn, and be long enough to fit to the shelf and touch the ground, dust will be quite excluded. The curtain should be of the same material as the other draperies in the room, and if these are thin it can be lined with stout unbleached cotton so as more effectually to exclude the dust. The shelf is useful for bonnet boxes, boots, etc. A "boot tidy," which is made of a square of holland, cretonne, etc., provided with pockets and hung on the wall, is most useful for holding boots and shoes. Boxes are also very useful in bedrooms. Long, rather shallow wooden boxes, with a cushion on top, and frilled, or covered with dimity or whatever the draperies are made of, do away with the necessity for many chairs, and supply the place of drawers. A large one at the foot of the bed takes but little room, and is most useful for evening dresses, etc. A dressing chest, that is a chest of drawers with a looking-glass fixed to it, is an excellent contrivance for a small room; it does away with the need for a separate dressing-table. Wooden wash-stands should be covered with oil-cloth.

The Spare Room.—In furnishing a room to be specially

reserved for visitors, a pretty table supplied with writing materials (an ink bottle, full, and a blotter *with blotting paper in it*) should always be provided. It is the greatest convenience to many people to be able to write their letters in the quietness and privacy of their bedrooms. In too many spare rooms the drawers and wardrobe are partly filled with the surplus garments of the family, and the visitor often finds no room for her own belongings in them. If a guest is coming for a lengthened stay she certainly should be spared this inconvenience.

The Drawing-Room.—This room *ought* to reflect the tastes of the mistress of the house. There is no necessity therefore for describing how it should be furnished, as tastes differ almost as much as faces. It will be well, however, to remember that cleanliness is as necessary in a nice drawing-room as pretty furniture, and that dusting knick-knacks, washing china, and arranging flowers occupies a great deal of time. It is for the mistress of each house to calculate whether she or her servants can afford the time and attention necessary for these duties before she invests in a superabundance of small fancy things that want constant attention to keep in nice condition. Here, as well as in the bedrooms, taste and care will do more to produce a pleasing effect than a great outlay in an upholsterer's shop. Pretty chintz, kept in nice condition and harmonising with the paper, will look as well as costly damask. A little ingenuity in putting castors on low boxes, covering the tops with well-stuffed cushions, and the whole with frilled covers to match the hangings, will make as pretty ottomans as can be desired in a simply furnished room.

There are three things to be avoided by any one who wishes to be the possessor of a drawing-room with even the smallest pretension to being furnished with good taste: (1) common china ornaments; (2) oleographs and pictures in cheap gilt frames, and large pictures of all kinds that are not really good; (3) artificial flowers of *every* description, stuffed birds, and all such things *under glass shades*. These are utterly abominable, and at once demonstrate the owners of the room to be quite devoid of any sense of the æsthetic in their ideas of furnishing.

Tables covered with show books in gilt bindings, evi-

dently intended for ornament (!), not use, should be rigidly eschewed. In some rooms these works of art are actually found reposing on mats of coloured wool! And sometimes on the books stand vases of paper flowers under blown glass shades. The days for such things have passed away, fortunately, and any that may be found remaining in the land should be ruthlessly destroyed. Books and flowers are the best adornments that any room can have, but the books should be chosen for their internal worth, besides possessing attractive covers, and the flowers should be *real*.

Unless a very handsome carpet, either Wilton pile, Axminster, Persian, or Indian, can be bought for the drawing-room, the prettiest floor covering will be found to be a good matting, with Persian or Indian rugs scattered over it. Nothing looks so cool, fresh, and dainty as a floor entirely covered with Indian matting of the plain natural grass colour, and over this some brightly coloured Eastern rugs. A plain coloured felt, with rugs here and there, also makes a pretty floor covering.

The Dining-Room.—If the house only contains drawing and dining-rooms, the dining-room should contain, along with the furniture specially required in it (side-board, dinner-table, dinner-wagon, and chairs), a couple of good easy-chairs and a writing-table, because the room will have to be used very often as a sitting-room and study, as well as a room merely for meals. The more substantial the furniture of the dining-room is the better. A massive sideboard, or one of the severe style known as Chippendale, a solid, handsome dinner-table and well-made chairs go to make up the appointments of a well-furnished dining-room. The paper should be good, not too light, and should harmonise with the carpet and draperies. These last should be of damask, chenille, or some other rich or at least substantial material, as cretonne or chintz are quite out of place in a dining-room. Some people cover their carpets with save-covers, but these generally wear the carpet under them very much; strips of Indian matting are much better preservers of carpets than save-covers, as they do not wear or cut the carpets they cover.

Morning-Room, Study, Smoking-Room.—Any small room can be used for these purposes, and such a room, where

work, writing, cutting-out, smoking, etc., can be indulged in at all sorts of times and seasons, is a great comfort. The drawing and dining-rooms' furniture is greatly saved by the establishment of even the smallest room kept for the many untidy kinds of work that have to be done in all households, and those rooms can then be kept always in a condition fit to receive strangers if no kind of occupation needing to be hurried out of sight is carried on in them.

The Hall.—Cheap oil-cloth should never be used for hall or passages. It soon wears into holes. Linoleum is very durable; if a good quality is bought and *properly washed* (see p. 77) it will last for a long time, looking well. The best kind for a hall is that with a pattern to represent tiles; this looks very well if of a bold design and good colouring, and its cost will be repaid by the good effect it imparts to the house on entering. String matting, or manilla matting, is very serviceable for halls and passages, and it can be had in a variety of colours. Crimson or blue and string-coloured in a large check pattern makes a very effective covering.

The Kitchen.—The cost of furnishing the kitchen must be carefully calculated by young people who are endeavouring to furnish on a limited sum, very especially when the limit is a narrow one. The utensils required in cooking and household work cost a good deal, and it will be surprising to the inexperienced to find how many of them are needed in an establishment conducted even on the most modest scale. It is very false economy to buy the cheapest cooking utensils, because they soon wear out and new ones will have to be bought, as very cheap pots and pans won't stand much repairing. If the *Batterie de Cuisine* be too small it will be difficult, if not impossible, to prepare many excellent and economical dishes from remnants, therefore it will not conduce to real economy to save too severely in this respect. The following is a list of the things absolutely needed in the kitchen of the smallest house where only the plainest cooking is undertaken, and after it is given a list of the things required when plain cooking of the better kind (curries, jellies, etc.) is to be done. The average cost of the articles is given, commencing at the lowest prices.

Kitchen and Household Utensils.

Two baking tins (from 6d. each).	£0 1 0	Knife board	£0 1 0
One basting spoon	0 0 6	Kitchen knives and forks, from	0 1 6
Basins (pudding, from 2d. each; others, from 9d. or 1s.)	—	Pepper box	0 0 6
One bread grater	0 0 6	Pie dishes, from 2d. each	—
Bread pan and cover, from	0 2 0	Rolling pin	0 0 6
Boiling pot (oval), from	0 4 0	Saucepans, small tin, enamelled, from 6d.; iron, from 1s. 9d. upwards, each	—
Brushes (set of three for stove), from	0 2 3	A set of four <i>wrought-iron</i> saucepans bought at a good ironmonger's would cost about £1 10s.; a set of plain iron do., about 9s.	
Brushes (set of three for boot cleaning), from	0 2 6	Skewers, set of metal	0 0 6
Brushes, scrubbing	0 0 9	Slice	0 0 4
Brushes for stairs	0 1 0	Slop pail, from	0 1 6
Candlestick, from	0 0 6	Spoons, from 6d.	—
Carpet twig	0 2 3	Strainer	0 0 6
Chopper and board	0 2 0	Steamer to fit saucepan, from	0 2 6
Cinder shovel (wire).	0 0 6	Stewpan, from	0 2 0
Coal scuttle	0 2 6	Sweeping brush (hair)	0 2 6
Coal shovel and hammer	0 2 0	Sweep's brush for flues	0 0 6
Colander	0 1 0	Scales,* from	0 5 6
Clothes horse, from	0 5 0	Teapot, from	0 0 6
Corkscrew, from	0 0 6	Tea tray, from	0 2 0
Dutch oven, from	0 1 6	Tin dishes (enamelled) for washing up, mixing pastry, etc. (more durable than crockery), from	0 0 9
Dust-pan	0 0 8	Toasting fork	0 0 1
Egg whisk	0 0 8	Trivet (for heating irons and standing dishes in front of fire)	0 0 6
Flat irons (two)	0 1 9	Washing tub, from	0 2 6
Rest for irons	0 0 6	Wire covers, from	0 1 0
Flour dredger	0 0 8	Wooden spoons, each	0 0 2
Fish kettle	0 4 6		
Frying-pan	0 1 0		
Gridiron	0 1 4		
Hair sieves (two).	0 1 3		
Two iron spoons	0 0 4		
Kettles, iron, from	0 3 0		
Tin kettles, from 6d. each	—		
Knife basket, from	0 1 6		

Besides these things, tin dish covers, crockery—*i.e.*, jugs and cups, saucers and plates—and chairs, one or two tables, plate rack and dresser, floor (oil) cloth, fenders and fire-irons, and blind will be needed for even the most modestly equipped kitchen; also kitchen cloths, dusters, round towel to hang on a roller behind the door, house flannel for washing floors, bath brick, soap, and soda, plate brushes, leathers, etc. Kitchen utensils in good condition can sometimes be bought very cheap at second-hand shops.

* Scales without loose weights are much the best kind. A useful machine weighing up to 14 lbs., and registering weight by a hand on brass disc, can be bought from 5s. 6d. upwards.

List of Utensils required for good plain Cooking.

Frying basket, from. . . £0	2	0	Paste board and roller,		
Funnels, each 6d. . . .	—		from	£0	2 6
Jelly bag *.	0	2 6	Paste brush	0	1 0
Larding pins, each, from	0	0 3	Pastry cutters, per box	0	2 6
Lemon squeezers	0	1 0	Preserving pan, enamelled,		
Mincing machine, from	0	5 0	from	0	4 6
Milk saucepan (double)	0	3 6	Preserving pan, copper,		
Mills for coffee, spices,			from	0	12 6
pepper, etc., from . . .	0	3 0	Pestle and mortar, from	0	3 6
Moulds for jellies, blanc			Stock pot or soup digester†	0	8 6
mange, etc., from . . .	0	1 0	Spice box	0	1 0
Meat saw	0	3 0	Sieves, hair and wire, from	0	1 0
Oyster knife	0	2 6	Vegetable cutters, per box	0	2 6
Omelette pan, from . . .	0	2 6	Yorkshire pudding tin . .	0	1 0
Patty pans, per dozen . .	0	0 6			

A *Bain Marie*, which is a deep copper or block tin open dish, in which saucepans are kept hot by its being filled with boiling water, is a kitchen luxury. With its help the cook can make her sauces, etc., at leisure, and keep them “*piping hot*” in the “*Bain Marie*” on the range. One made of block tin can be had for £1 7s. 6d., but a copper one will run up to £6 6s.

A *Refrigerator* is another luxury which greatly tends to the economy and comfort of a household. In it all sorts of food articles can be kept in hot weather for a much longer time than in any larder or pantry. Fruit is greatly improved by being placed in it for a few hours; butter is kept from running to oil if stored in it; and fish, etc., which in sultry weather would perhaps become uneatable in a few hours if kept in the larder, may in the refrigerator be preserved in good condition till the evening dinner-hour. Therefore if the purse’s limit does not actually forbid its purchase, it will be found an economy in the end to provide the house with this useful addition to its housekeeping requisites. It must, of course, be supplied with ice, but the cheapest rough ice will do for the purpose. If anything should turn putrid in the refrigerator and a bad smell arise, a few pieces of wood charcoal put into it will quickly remove the smell. A

* It is no economy to try and make a jelly bag at home, as it cannot be properly made except in a factory, because it should be seamless and fitted with loops. A jelly bag, with care, will last for years.

† This is not absolutely necessary, as any saucepan with a well-fitting lid can be used as a stock pot.

small refrigerator can be bought for £3 3s. Second-hand refrigerators can occasionally be bought very cheap.

When good cooking is needed a liberal supply of sauce-pans, frying-pans, etc., must be provided; and it should be borne in mind that the prices given in the lists are for the cheapest articles of their kind; larger and better ones should be provided, if possible, and of course they will cost more.

The *Kitchen Range* is a most important part of the equipment of the kitchen. Many people have no choice in the matter of the range, as it is a fixture when they take the house, but for those who can provide their own range the following practical advice from Newsholme and Scott's valuable manual on Domestic Economy will be most useful:—"The principal points to be considered in its choice are durability, efficiency, and economy of fuel. The lowest priced ranges are not necessarily the cheapest. They are often made of very light metal, which soon wears out, are of faulty construction, and cause much waste of fuel. A good range should be so constructed that it can be used both as a close range and an open fire-place. The fire-box should be of such a size that the fire is sufficient to heat all the surfaces of roaster and boiler, but not so large as to waste fuel by sending superfluous heat up the flues. The flues should go *round* the roaster and boiler, and should not be connected with each other. In cheap ranges this is sometimes neglected, and the cooking suffers in consequence. The flue pipe should have a cleaning door, giving easy access to the flues.* By shutting the damper of the roaster when the latter is not in use, the draught, and consequently the consumption of fuel, is greatly decreased. The parts of the range immediately in contact with the fire, such as the cheeks, bottom grate, fire-cover, etc., should all be movable, so that they can easily be replaced by new ones when worn out. The boiler should be of heavy metal thoroughly welded, and in some of the best ranges it is arranged so that it can be lifted out. One of the best examples of a good range, combining all the good points of the well-known American cooking-stove with all that is useful in the English close-fire range, is Stevens's 'Westminster' range. This is a movable range, so constructed that a very small amount

* See Chap. IX., p. 98.

of fuel is required to heat both oven and boiler, whilst a good supply of hot water, which is so constantly required for household purposes, can be supplied within half-an-hour after the fire has been lighted. Under the oven is a hot closet for warming plates. The prices of this range are from £3 5s. 6d. to £5."

It will be good news to young housewives to learn that a reliable range can be had so cheaply.

Gas Cooking Stoves are much used nowadays instead of kitchen ranges, and the question which is the most economical for cooking—coal or gas—is one often debated by housekeepers. *It is entirely a matter of management.* Gas is less trouble, is cleaner, and is more reliable to cook with than a coal fire, and if the gas be turned off when not in use, and is not used extravagantly, it need not be much, if at all, more expensive than coal, especially when the great saving of trouble in lighting and cleaning is taken into account. The gas stove in the hands of a careless servant, however—one, for instance, who will use the twelve or fourteen jets of the "griller" instead of the small ones of the "simmerer" to boil an egg, and so on—may be converted into a fearful engine for the construction of ruinous quarterly bills. In circumstances where the mistress of the house has to do her own cooking and can control the stove, cooking by gas will be found a great comfort, as it is quite possible to cook a dinner with a gas stove without soiling one's dress or hands, which cannot be said of the same work done with a range, with its constant need of putting on coal and poking up the fire. Gas stoves can be *hired* yearly for a very small amount from the gas companies, and it is much better to *hire* one than to *buy* one, because in the former case the company will fix it in free of charge (unless the gas has to be laid into the room), and also will change it for another when, after wear, it gets out of order.* A gas ring—*i.e.*, a stand with a ring of jets, attached by a detachable tube to any gas bracket—is a great convenience in kitchen, dining-room, or bedroom,

* Meat can be *roasted and grilled* as well in a gas stove as at an open fire. No injury to the flavour of the article cooked is ever occasioned by cooking with gas. It has, moreover, one great advantage over a coal fire, no dish cooked on a gas stove will ever be smoked.

and will economise coal, especially in summer, when the kitchen fire can be allowed to go out, and kettles, saucepans, or frying-pans can be used on the ring.

People who have no gas laid on will find *oil stoves* a great convenience and very economical, especially in summer, when the use of coal-fires may be quite discontinued, at all events for a great part of the day. Oil stoves of all sizes can be had, from the large ones with ovens in which bread, pastry, cakes, or joints can be baked, to the little 2s. 6d. stove answering the same purpose as the gas "ring," on which saucepans, kettles, and pans can stand. The "Beatrice" from 3s. 3d., or the "Star" at 2s. 6d., are very good examples of this kind of stove, and with one of these breakfast, tea, and, if a saucepan with steamer be used, dinner of a plain kind can be easily cooked,* without any aid from a fire.

There are two remaining requisites for the kitchen which need a word—(1) a clock; (2) a lamp (if there be no gas). It is impossible for proper cooking to be done without attention to time. Punctuality is the keystone of Household Economy and good Domestic Management, therefore there should be a clock in every kitchen to leave the domestics without excuse for shortcomings in these respects. A very good clock with an alarum, one which will last for several years with ordinary care, can be bought for 7s. 6d. at any clockmaker's shop. It will need winding every night. If this be carried to the servant's room she need not fear oversleeping herself.

A gas jet over the fire-place is the best means of lighting the kitchen; failing this, a *kerosene* lamp should be used in preference to paraffin, because the former is not so inflammable as the latter. A good light is needed for cooking late dinners, etc. An excellent single-wick lamp can be bought for 2s.; and "*safety lamps*," which if overturned extinguish their own light, can be bought very cheaply.

Store-Room.—It will be found very helpful, if the cost does not forbid it, to supply the store-room with a number

* For instance, a beef-steak pudding might boil in the saucepan, and potatoes and a fruit pudding in a basin could steam in the steamer over it; or a fowl in the saucepan, and potatoes and cauliflower in the steamer.

of earthenware jars with lids labelled with the names of their contents—rice, sugar, etc. The prices of these vary from 1s. upwards, according to size. Ordinary jars with lids may be labelled by sticking gummed papers, with the names written on them, on the outside. These can be bought cheaper than jars with printed words on them, and generally of a larger size than the latter.

A good supply of wire meat-covers, to keep flies from meat, etc., should be provided in hot weather. *Squares of clean muslin* answer as well, or even better, for this purpose, if care be taken to wrap them well *all over and under the dishes*.

Housemaid's China Closet, or Butler's Pantry.—In houses where there is a properly arranged room with shelves and sink for keeping and washing-up the glass and crockery, it will be possible to keep the kitchen in much better order than where no such convenience exists and the washing-up has all to be done on the kitchen table; where more than one servant is kept this leads to frequent friction of temper.

A wrinkle worth remembering about the china-closet is this. Do not, if the family is a small one, give out (unless to an experienced, trustworthy servant) all the dinner and breakfast service together, nor all the glass. If there are only two or three in the family, and a careless girl has a dozen cups and saucers, etc., under her charge, the mistress may find at the end of a few weeks that perhaps but six cups, or seven or eight glasses, remain of her sets. As they are smashed they are replaced without comment, whereas if the girl had to confess to her destructiveness,—because her supply had run short,—she would be pulled up in time, and would probably become more careful. The same holds good with regard to kitchen cloths, dusters, etc. They should be given out in small quantities at a time; a too liberal supply leads shiftless servants to ill-use and destroy them.

Servants' Room.—Unless the servants are provided with healthy sleeping rooms they cannot be expected to work well or keep themselves neat. A clothes press or cupboard, or convenient wall-pegs, and a good chest of drawers, should be in the servants' room, and the mistress should insist—if she unfortunately has a servant neglectful in this respect

—that the room should be scoured out once a fortnight, and that it should be kept neat and tidy.

GENERAL NOTES ON FURNISHING.

Fenders.—Tiled hearths and marble fenders are much prettier and take much less time to clean than brass or steel fenders, and they can now be bought cheaper than formerly. It must be remembered also that they will last a lifetime, and can be very easily taken up and removed from one house to another.

Carpets and Rugs.—Brussels carpets are very serviceable—a really good one will last many years. Tapestry carpets are generally painted or stamped in colour, and in a cheap make this soon wears off under hard usage. Kidderminster carpets are reversible—*i.e.*, have a pattern on both sides; when one side is shabby the other can be turned outwards; these are very suitable for bedrooms. Cut pile carpets (Wilton, Axminster, etc.) and Indian and Persian carpets give excellent wear, are very handsome, but rather expensive. Thick rugs made in imitation of Eastern carpets can be bought from about five shillings upwards, and wear very well indeed. Cheap, hard, stiff carpets do not wear well, because they are made of hemp threads and inferior wool. Materials made of pure wool, carpets, curtains, table covers, etc., are well worth their extra cost, because they give infinitely better wear, and will dye or clean as long as they last. Good carpets can always be cleaned or dyed with great advantage.

Blankets should be *all* wool. The cheaper kinds are mixed with cotton which makes them heavier but not so warm, and they do not last nearly so long, and therefore are dearer in the end.

Furniture of polished hard woods, mahogany, walnut, ash, etc., looks, lasts, and cleans *much* better than wood that is merely painted or enamelled. Suites of furniture of these two latter kinds look very pretty when new, but soon grow shabby.

House Linen is an important item in furnishing. The best is the cheapest in the end, as a good supply of first-class linen will, with care, last more than half a lifetime, but

many people have to consider what is cheapest in the beginning, not in the end.

The *very least* that any one can start with (and so small a supply cannot be comfortably managed) is two pairs of sheets, two pillows and two bolster covers, and two quilts for each bed. Six towels and six table napkins is a fair supply for each person, and there should be at least six table-cloths, three for breakfast, and three better ones for dinner; three kitchen table-cloths, and from one to two dozen glass cloths and dusters. For each bed two pairs of blankets, as well as pillow and bolster must be provided.

Besides these things a breakfast, dinner, and tea set, and tumblers and glasses will be needed; also such necessities as tea and coffee pots, toast rack, cruets, dish-covers, etc.; and cutlery and plate, at all events, to the extent of a dozen large and small knives and forks, and half-a-dozen each of table, dessert, and tea spoons. The prices of all these things vary according to quality. Price Lists from furnishing and drapery warehouses will easily enable any one to calculate what they will have to spend in providing these absolutely indispensable articles. Fortunately for young couples "setting up" many of these things come as wedding presents.

CHAPTER IV.

SERVANTS.

Servant-Hunting.—The halcyon days of the honeymoon may be said to be fairly over and the grim realities of life to be entered upon when a young bride has to face the unexhilarating occupation of servant-hunting. There are three ways of getting servants—(1) hearing of them from friends, or from one's tradespeople, who often know of servants wanting places; (2) from a registry office; (3) advertising or answering advertisements in newspapers.

The first is not an invariably good means for procuring a satisfactory domestic. A friend's "treasure" may prove the reverse under new management. If she has been a long time in the friend's family she may have got into stereotyped ways from which she may resent being obliged to change. Servants who have lived ten or fifteen years in the same family often are very uncomfortable people to deal with when they go into a fresh service.

In going to a registry office discrimination is necessary, as these institutions vary extremely, both in their character and in the class of servants they supply. Some registry offices and "Servants' Homes" are *extremely* disreputable places, from which the most objectionable kind of servants only are to be had. Many respectable servants never enter a registry office at all, but rely on answering advertisements. If, however, it is necessary to resort to a registry office, careful inquiry should be made as to its character; and of all things, those offices where there is a large room, in which the servants sit all day in groups, are places to be strictly avoided. An amount of mischief that is surprising goes on in such places. The doings of the mistresses are scanned

and scathed, and young girls are instigated to all sorts of undesirable ways by old "campaigners" who have spent their lives roving from one situation to another. Respectable offices enter servants on their books, and send them to interview the lady at her own home, according to appointment. The kind of servant required must also influence the choice of the registry office applied to. The mistress who seeks what the comic papers call "the single-handed general" should not, of course, repair to the same class of office which supplies butlers, housekeepers, and the upper class of servants. Small local registry offices kept by some respectable woman, who perhaps keeps a shop also, is the most likely place in which to find that four-leaved shamrock, the "good general servant."

Advertising or answering advertisements is usually the best way to procure respectable servants of the class above the general servant. A word of warning as to advertisements may be useful to the inexperienced. Advertisements of the most alluring kind sometimes appear in the daily papers after this pattern:—"General servant, excellent cook, waits well at table, fond of children, good needlewoman, will undertake washing, 12 years' character. Wages £10." Of course no such person exists; the bait (it ought not to deceive the most innocent) emanates from some dishonest registry office, and its object is to obtain "booking fees." Unsuspecting people waste time and money hurrying off to secure the prize, and find to their disgust that the address which they supposed to be that of a private house is a registry office, and are told that "the girl is in the country," or has been sent to some one else, but that on payment of 2s. 6d. or 5s. she "will communicate with you," if not already engaged, etc., etc.

Servants are often deluded, too, by advertisements offering situations with high wages and little work to do. Country servants are sometimes severely victimised by fraudulent registries, whose alluring offers induce them to come up to London only to find themselves deceived.

Engaging Servants.—When a servant is found who seems likely to suit it is most important to make careful inquiry as to her character, temper, capabilities, etc. *Spare no trouble in finding out as much as possible about a servant before you*

engage one, if you wish to be saved worry, annoyance, and frequent changing. If this was always done it would prevent much domestic discomfort.

These five rules are earnestly recommended to inexperienced young mistresses:—

1. Don't take a servant unless you can have a personal interview (or correspond personally, but an interview is best) with her last mistress.

2. Don't take a servant who has been a long time out of place. Never mind if she tells you it is because her mother was ill, etc. Unless you can hear from *good authority* that her story is true, have nothing to do with her.

3. Don't take a servant who speaks badly of her last mistress, *particularly* if she tells you she left because the mistress drank. This is a common tale with domestics who are addicted to drink themselves.

4. Don't take a servant who says you can't have an interview with her mistress because she has gone abroad. If this is true some friend of the lady's will answer inquiries about the servant.

5. Don't expect perfection in a servant. Perfect servants or perfect mistresses don't exist in this world.

When an interview with the former mistress is desired, the servant should call and ask her at what hour she will see the lady who wishes to speak to her. She will appoint a day and hour convenient to herself, which appointment should be punctually kept. Or the lady who thinks of engaging the servant may write and request an interview. Such letters should be accompanied by a stamped envelope for reply. If the former mistress does not wish to give a personal interview, *there is no law to compel her to do so.* Indeed there is no law to compel a mistress to give any character at all if she does not choose to do so, though of course no right-minded person would injure a servant's prospects by refusing to give a character *unless* she has nothing good to say, in which case she is quite within her rights in refusing all interviews on the subject.

In a confidential conversation a mistress will impart a very much truer idea of what a servant really is than she will or can do by letter; and, besides, the interview with

the mistress herself will say much on the servant's side also. There are bad mistresses, it must be remembered, as well as servants. And it has happened that a mistress whose temper or exacting harshness has driven a good servant from her, has afterwards been petty enough to wreak her anger upon the girl by trying to keep her out of a place. In conversation it is generally possible with moderate shrewdness to find out these things for oneself. There is also a good deal to be gathered from the appearance of the mistress and her house. If these seem untidy and ill-managed it is scarcely to be expected that the servant will be well trained or satisfactory.

In giving a character of a servant there is one simple rule which, if invariably and conscientiously followed, would have a wonderful effect in solving the troubles of servant-keeping. It is *absolute truthfulness*. Neither to gratify ignoble spite on one side, nor to help an unworthy servant to get a place on the other, should one mistress try to keep another from taking a servant she would willingly have kept herself, or palm off on her one she would not have in her own house. *She should not mention suspicions*, as of dishonesty, etc., unless she has proof to go on, but should be as candid in the matter as she would wish another to be in dealing with herself.

Care should be taken in giving a *written* character not to put anything in writing that is detrimental to the servant, *unless it can be proved*. A libel action sometimes results from indiscretions of this kind. Very glowing characters are sometimes doubtful. People have tried for reasons of their own to get quietly rid of servants by passing them on to some one else. The other day a case was mentioned in the police reports of a servant who had drank three bottles of whisky and an appalling amount of other liquors in a week. She had only been a few days in the situation, and the lady who had taken up her character had asked her former employer "What are her faults?" "She has no faults," was the reply; "she is quite perfect!" A mistress who has given a servant a character on the strength of which she has obtained a situation, should not, if the servant leaves the situation at the end of a few weeks, consent to be again referred to, unless the reason for leaving

was clearly not the servant's fault. The character should always be given by the last mistress.

A very bad plan is adopted by some people in engaging servants; they paint the situation and its duties in brilliant colours, which the servant finds, when fairly established, to be sadly overdone. This is a terrible mistake, entailing nothing but annoyance and discontent. It is far better to clearly set forth the duties; if they are beyond the candidate's strength or inclinations, it is surely better not to hire her at all than to hire her probably to have her leave suddenly, perhaps at a most inconvenient time, and have all the trouble and expense over again of looking for another.

Servant Management.—There is no better plan in household management than for the mistress to think out a plan of work for each servant, whether she has one or a dozen. This plan must vary according to the requirements of each household, but it must clearly arrange the work that each servant is to do. "It's not my place to do it," is a frequent cause for dissension in families where several servants are kept. If the duties of each one are arranged *in detail* there can be no excuse for squabbles or shirking work. When the plan is arranged it should be written, or better still, typewritten, putting the duties of each servant on separate papers, which may be pasted on cardboard. Let the cook's hang in the kitchen, the housemaid's in her pantry, and so on. This method saves much domestic friction; and if, when engaging a servant, she is shown the printed list of her work she will see at once whether she wishes to undertake so much, and she will also be at once imbued with a wholesome sense of her would-be employer's systematic management. If she be a careless slattern she will probably fight shy of the place, greatly to the mistress's benefit.

Table of Work.

The Table of Work may be drawn up something after the following manner, altered to suit the number of servants kept, style of living, etc. For instance, in a large household where kitchen and scullery maids are kept the cook will have nothing to do with the housework. In small households where but two or three servants are kept the

cook usually cleans the hall and dining-room, answers the door in the forenoon, etc. It is for an establishment where only a cook and house-parlour-maid are kept that this Table of Work is suggested.

COOK'S WORK.

Daily.—Light kitchen fire at —— o'clock (here add hour according to whether dining-room breakfast is at 8, 9, or 10 o'clock, as this regulates hour of servants rising). Sweep basement passage, hall, and dining-room. Clean knives and boots.* Clean steps and brasses. Dust dining-room. Prepare breakfasts for kitchen and parlour. After breakfast clear breakfast things from dining-room. Wash up. Tidy kitchen, and have list of things needed for the day ready when mistress comes down to kitchen (here add hour of family lunch or early dinner, kitchen dinner, and other meals). Answer hall door in morning. Wash up all crockery after each meal. After late dinner or supper leave kitchen tidy for night.

SPECIAL WORK FOR EACH DAY.

Monday.—Clean windows (or some of them, the house-parlour-maid doing the lobby or staircase windows).

Tuesday.—Polish all brasses, tins, etc.

Wednesday.—Turn out and clean larder, pantries, etc.

Thursday.—Turn out and clean dining-room and hall.

Friday.—Turn out servants' room.

Saturday.—Give kitchen and basement thorough cleaning in morning. In afternoon prepare dishes for Sunday, so as to save work on that day.

Whether the cook carries in the breakfast dishes, whether she does all the boots, knives, etc., whether she does some or all of the marketing, is matter for the mistress to arrange. It ought to be remembered that going on errands takes a great deal of time, and when there are but two servants, and still more if there be but one, the mistress should certainly endeavour herself to do as much of the necessary house-

* If the servant wishes to do some of these things overnight or at other times it is better to give her latitude in the matter. The object of the Table of Work is to show her what her work is, and so long as it is done that is the chief point.

hold shopping as possible. No servant can be expected to do her work properly if she is being constantly sent out on errands. It encourages her to "scamp" her work, and to get into very bad training, if the system of the day's work is broken in this way. A little forethought in ordering supplies (a halfpenny post-card will often save an hour or two of a servant's time) will prevent the continual running in and out that is the fruitful cause of much household muddling and disorder.

HOUSE-PARLOUR-MAID'S WORK.

Daily.—Take early tea (if wanted) and hot water to bedrooms (add hour). Sweep and dust stairs. Lay kitchen and parlour breakfasts. After breakfast, do bedrooms. Dust drawing-room. Lay table for luncheon (or early dinner) and kitchen dinner. Clear away things from dining-room. Wash up glass and silver. Dress, to be ready to open hall-door from three o'clock. Bring up afternoon tea (add hour). Lay dinner-table (if late dinner), take hot water to bedrooms. Wait at table. Wash up silver and glass after dinner. Lay kitchen supper. Arrange bedrooms, emptying slops, fill hot-water jars, if needed, etc., for night.

SPECIAL WORK FOR EACH DAY.

Monday.—Turn out best bedroom and count things for laundress.

Tuesday.—Turn out one or two other bedrooms.

Wednesday.—Turn out drawing-room.

Thursday.—Turn out study, bath-room, etc.; stair-rods.

Friday.—Clean silver. Turn out housemaid's pantry, china closet, etc.

Saturday.—Mend house-linen, stockings, etc. Count linen from wash.*

Add at end of each card the Sunday arrangement for going out and what weekly evenings and holidays are given.

Some people insist that the house-parlour-maid shall be dressed in her afternoon gown to attend luncheon or early dinner. This is very unreasonable if she is expected to

* Each servant should wash the cloths and dusters required for her work; it is very extravagant management to send these to the laundress.

“turn out” and properly clean the rooms. If she is dressed by three o’clock to open the door to visitors (and no one should pay calls *before* three) it is all that can be expected of a house-parlour-maid.

Household Lists.—On entering their situations each servant should be given a list of the special things under her charge—the cook a list of her utensils, kitchen-cloths, etc.; the house-parlour-maid a list of the silver, cutlery, glass, china, house-linen, blankets, that belong to her department. If these lists are written legibly in stout account books, and the books labelled “*Cook’s Book*,” etc., a vast deal of time and trouble will be saved, and all discussion as to whether such and such an article “was here when I came,” or “was never in the house in my time,” will be obviated. Needless to say, these books should be gone through from time to time by mistress and maid together, breakages or loss noted, explained, and rectified, and the books corrected up to date, especially when a change of domestics takes place. The keeping of such books is a great check on carelessness and wastefulness. If stoutly bound they will last for years. The servants should be told to keep them clean.

SERVANTS’ FOOD.

This is a rock on which domestic peace is often wrecked. We all probably know Leech’s picture, “Please, m’m, I find there’s cold meat for the kitchen dinner. Did you expect me to eat it?” and on being answered in the affirmative the epicurean damsel gives notice to leave, and a good riddance she must have been. In these days some servants object to “foreign meat” even more than to cold meat. It is usually the most ignorant class of servants who have these prejudices. In families where New Zealand meat, etc., is used, it will be found much better to say when engaging a new servant, “We generally use New Zealand meat; do you object to it?” It is much better to say this than to take a servant only to receive notice that she wishes to go when she finds the butcher’s meat not to her liking, and that servants have left comfortable places for this reason is a positive fact.

Another cause of much dissatisfaction to servants, and this

is reasonably so, is the habit of some mistresses of cutting the servants' dinner and sending it out from the dining-room table. This is a most wretched plan, unless in cases where only one young servant is kept, when it is quite allowable. No good servant likes, and many will not put up with this kind of management. The dish should either be sent to the kitchen for the servants to cut for themselves when the family luncheon or early dinner is over, or, which as a rule is the best plan, the servants' dinner should be provided separately.

If there are several members and two or three servants in a family, it is extremely uncomfortable to expect all to have their dinner from the same dish. The question will arise, "Is there enough left for the servants?" and those of the family who know that the domestics are waiting for the dish to go out will often refuse the second help they wish for so that it may not go out nearly empty. This is not comfortable management. It is much better to let the remains of the family dinner of to-day serve, in the shape of mince, curry, shepherd's pie, or rissoles, for the servants' dinner to-morrow. They will eat the cold meat done up in this way when they would scorn it in a "hash," to which in kitchen circles there is often as rooted an aversion as to "foreign meat."

When it is not necessary to practise very severe economy it is a good plan, and in the long run as economical as any thing else, to allow one joint a week, say a small leg of pork or a shoulder of mutton, etc., especially for the kitchen, with the understanding that it is to last for two, three, or four days, according to the number who eat it. They can do it up then to their own taste. The allowance of a small bottle of pickles will go a long way to induce servants to eat cold meat. On the other days after their joint is used, the remains of the dining-room dishes, with a little fish, or a rabbit, and suet pudding, can make up the kitchen *menu*. It is good economy to allow a pudding or sweet dish of some kind* in the kitchen every, or nearly every day. It saves the meat and contents the maids. Kitchen breakfasts and suppers vary according to the income of the household and the frugality of its management. In some houses

* In the section on Economical Cookery many recipes for cheap puddings and other dishes suitable for the kitchen will be found.

bacon or eggs, fish, etc., are allowed every day for breakfast, and cold meat for supper. If it is possible to afford it, servants ought certainly to have an egg, or a slice of bacon, or a kipper, bloater, etc., or, which is very cheap, some bloater paste or potted meat for their breakfasts. They have to be up early and to do a hard morning's work, and need quite as much nourishment as their mistresses. For supper, however, meat is quite unnecessary; people don't need meat more than once a day, but a good piece of cheese should be provided weekly, which makes a substantial supper. Water-cresses, which are excellent for the blood, may be given with advantage to girls occasionally. A pot of jam or marmalade, once a fortnight or so, is much appreciated by servants. The usual weekly allowance for each servant for breakfast and tea is—tea, quarter pound; butter, half a pound; sugar, one pound. Milk, one-third of a pint daily.

The too strict locking up of all food is seldom a good plan; it defeats its own end, and often makes servants more careless and wasteful than they would be if more trusted. There are some servants, however, from whom no sweets, cakes, or dainties are safe unless under lock and key. Such servants are a great nuisance, and unless valuable for some good quality, are best got rid of. Many people find that if they once obtain respectable servants it is much better not to lock anything up; if they are trustworthy, and many are so in spite of the prevailing lamentations on the subject, very little supervision will cause them to care for and economise the household supplies with as much interest as their mistress, and the feeling of being "trusted" usually makes them do this.

Wines and spirits are better kept locked up unless the servants are teetotallers. Beer, or beer-money, is given in some houses, not in others. Beer is quite unnecessary, but some good servants won't go without it. A barrel of beer on draught is an expensive plan, and constant running out to public-houses should never be allowed by any mistress; it is a disreputable habit. Gallon beer jars with a tap are supplied by most breweries, and if the servants have beer they should either get it in this way or in bottles from the grocer. If possible, it is much better

to make *no beer* the rule of the house; the regular giving of beer-money is often an inducement to servants to drink who would otherwise be sober. Beer-money averages from 7d. a week, or £1 6s. a year, to 1s. 6d. a week, or £2 12s. to £3 a year.

SERVANTS' WASHING.

Besides food and beer-money, the laundry is another expense that must be reckoned with in keeping servants. In the country servants often do all their own washing, and in towns the inferior class of servants do so, but it is the general rule that a weekly sum is paid to the family laundress for the servant's washing, or part of it, if the servant agrees to wash some of her own things. Fourpence is the usual charge in town for washing a maid's cotton dress. Some servants will wash the rest of their things if one dress a week is done out. In other cases the laundress is paid from 9d. to 1s. 6d.* a week for each servant, and it depends on the good nature of the laundress, and the servant's power of extracting work from her, how much she does for the sum she gets. Laundries of high-standing are, of course, expensive. It is not a good plan to include the allowance for washing in the wages. It causes some servants to save the money and stint the washing, to the detriment of their appearance. The fixed weekly allowance *paid to the laundress* is a much better plan.

SERVANTS' WAGES.

Wages vary as much as house-rent. In a large house the wages are higher than in a small one. The more servants there are kept the higher are the wages and the less they have to do. Wages are higher in cities, in London especially, than in country places. The wages rate varies also, of course, with the class and capabilities of the servant. Wages are generally calculated at so much per year, but are paid by the month—a month's notice or a month's wages being equivalent if the servant is discharged. Gardeners, coachmen, grooms, and sometimes the inferior class of

* If a nurse always dressed in white is kept her washing bill will, of course, cost more than this.

women servants, are often paid by the week. Charwomen are usually paid by the day.

TABLE OF WAGES (AVERAGE).

Butler, £40 to £100, with board (there are perquisites which often make this post more valuable).

Valet, £30 to £60, with board.

Footman, £20 to £60, with board (livery is generally found).

Page, £8 to £18, with board (some livery).

Coachman, from £1 to £2 2s. a week, without board; rooms or lodge and some livery generally found.

Gardener, from 15s. a week to £150 per annum.

Man for general work in garden, house, etc., according to age, from 6s. to £1 a week if living in house, with all found.

Housekeeper	£20	to	£100
Lady's-maid	16	to	50
Nurse (head)	20	to	50
Nurse (under)	10	to	20
Cook	15	to	50
Housemaid	15	to	25
House-parlour-maid	15	to	30
Laundry-maid	12	to	30
Kitchen-maid	8	to	18
Scullery-maid	8	to	15
General servant	8	to	25

All these are found in everything. Washing, as above, by arrangement. Charwomen in London are usually paid from 1s. 6d. to 2s. 6d. per day, with food and beer. In the country they are cheaper. Board wages vary from 7s. to 15s. a week.

Holidays and Followers.—Servants should be allowed out at least once on Sundays. In small families the cook could go out in the afternoon and the housemaid in the evening, or *vice versâ*. An evening once a week, if the servants have friends to visit, is a pleasure that should not be denied. A whole day, that is to say after the necessary work of the morning is done, till 9.30 P.M., once a month, should, if possible, be given. Kindness and consideration in the way of holidays is more appreciated by some servants than high wages; but the mistress ought, if she has young servants, to *insist* upon their being in before ten o'clock at night, and should endeavour to know something about their associates while they are out, especially if they are strangers in the place. It is too much the fashion now for London servants never to go to any place of worship. A little care and encouragement from mistresses on this point, and some

supervision over the moral conduct of the girls in their employment, would prevent many a wrecked life among the servant girls of our country.

The rule that no men, unless a father or brother, should be admitted to the kitchen ought to be rigidly enforced. At the mistress's discretion it may, of course, be relaxed in the case of a *bonâ fide fiancé*.

RULES FOR DOMESTIC PEACE PRESERVATION.

1. Don't speak of one servant's faults to another.
2. Don't send messages of reprimand by one servant to another.
3. Don't let the master send messages of disapproval from the dinner-table to the cook; they are sure to be exaggerated on delivery.
4. Don't take sides in servants' quarrels with each other. If they become serious, dismiss the one you can best spare.
5. Refuse altogether to arbitrate or interfere in servants' disputes, but speak to each privately on the evil of quarrelling.
6. If a servant is an inveterate lie-a-bed, cure is hopeless; change her.
7. Don't go into the kitchen oftener than is absolutely necessary. It is the worst possible plan to keep popping in and out of the kitchen at all hours to "see what the servants are after." No mistress who does it is respected or better served for it.

Finally—Don't expect perfection. Be satisfied if you get some good qualities, and be assured you will never get all the virtues united in any handmaiden. One should be thankful if one escapes domestics with real vices, and should balance small shortcomings against commendable qualities. Very excellent, clever servants are frequently ill-tempered, or, worse still, drink. Dirty, slovenly girls are often very willing and obliging. One must bear with small faults if one finds them in a suitable servant, as constant changing destroys domestic peace.

CHAPTER V.

HOUSEHOLD WORK AND SERVANTS' DUTIES.

"*Dost thou love life?* Then do not squander time, for that is the stuff life is made of."—BENJAMIN FRANKLIN.

IF a carefully thought-out plan is necessary for the expenditure of a limited income to the best advantage, it is equally necessary for the expenditure of a limited number of servants' time to the best advantage. Unless a systematic plan of daily work (as at p. 60) be arranged by each mistress according to the requirements of her household, disorder and muddle are bound to reign supreme.

In order to keep a house clean and in nice order with one, two, or three servants, two rigid rules must be observed—(1) early rising; (2) system in cleaning. If the servants are not down in time to get done before breakfast the washing of steps, hall-sweeping, grate-polishing, boot-cleaning, and things of the like kind, which need to be done every day, the work will be thrown out of gear, and the necessary day's work cannot possibly be got through. When few servants are kept the family breakfast-hour *should not be later than nine or half-past nine o'clock*, the servants, of course, breakfasting earlier. In some ill-managed families the servants breakfast at the same time, or even after the family—a sure sign of an incompetent mistress's hand on the household reins. Immediately after breakfast the bedrooms should be done. Whenever the beds are lying unmade after midday (unless in cases of illness or emergency) you may know for certain that the domestic ruler in that house is an incompetent one. *There is no truer sign of slovenliness and wretchedly bad domestic management.*

Punctual hours for meals are also absolutely necessary in an orderly home. If meals are at "odd hours," or if members of the family are in the habit of coming in when it suits them, necessitating the "heating up" of dishes and lingering clearance of the table, it will be absolutely impossible for a small number of servants to do the work; and good methodical servants will not stay where such habits prevail. Early going to bed ought to be the rule for the kitchen, but it is a rule often very difficult to enforce. Some servants have as rooted an objection to going to bed early as they have to getting up betimes; nevertheless, it is a rule which *must* be enforced if economy and good management govern the housekeeping.

HOUSE CLEANING.

Bedrooms.

A large clean apron should be kept for bed-making only; it should not be used when doing kitchen work or grate cleaning. If dirty work has to be done by the bed-maker, it is a good plan to keep a pair of cotton sleeves, with elastic run through each end, to slip on while making the beds.

Bed-making.—Mattresses should be turned *at least* twice a week, but daily is best. The bed-clothes should all be thrown back over end of bed when the occupant rises, and the window be opened widely before the room is quitted. It is very unhealthy to sleep in beds that are never *aired* in this way. A very good rule to ensure the mattresses being turned is for each person to throw their own bed-clothes on a chair and raise up the mattress on the bed before leaving their room.

To turn out a Bedroom.—Take on to landing or next room as many articles as possible, or gather them to one end of room, after brushing, dusting, and polishing them well, and cover closely with a dusting-sheet.* If rugs or movable squares are on floor, roll them up and take to

* Every housekeeper should provide several very large sheets of common calico, especially for covering furniture during cleaning. It is very slovenly to use bedroom sheets for this purpose.

yard for shaking or beating. Remove bed and window curtains for brushing in yard, or, after brushing cornices and poles, shake and brush as they hang, fold and pin them high up. Remove and beat mattresses, wash or well rub bedstead, shake the blankets out of doors, then make the bed, but leave valance and curtains pinned up. Cover bed closely with dusting-sheets, and having washed and dusted all small ornaments from mantel-shelf and toilet belongings, put them on the bed and cover them with a cloth. Take down pictures. Brush down walls with a long handled broom, the brush part covered with a cloth. Clean windows. Sweep the floor. Wash painted wood-work, and lastly, scour the floor.

To turn out Drawing-Room, Dining-Room, etc.

Proceed as for bedrooms. Be careful to brush all sofas, chairs, etc., well, standing them on a sheet while brushing if carpet can't be taken up. The folds are specially liable to harbour moths if not kept well brushed. Once moths have infested couches, etc., there is no safety for the other furniture but in sending the infested article to be purified. This is called *baking*, and is done by steam without injury to the article. Most large upholsterers can have it done. To have a sofa baked costs ten shillings.

Dusting Furniture.

A feather brush is the worst thing possible for dusting furniture; it merely flicks the dust into another place. The following will be found an excellent method for dusting and cleaning furniture, and it obviates the need of constantly applying furniture polish. Dissolve a piece of soda the size of a small lump of sugar in a pail of clean tepid water. Dip a soft chamois leather in the water and wring it out well, polish over all the furniture with this; it removes the dust and brightens up the furniture better than anything else. *Furniture polish* can now be bought so cheaply that it is hardly worth making at home. The following are good recipes for those who prefer to make it:—

*Furniture Polish.**

1. Linseed oil, half pint; spirits of wine, half pint; vinegar, quarter pint; turpentine, half pint. Mix by shaking up well in a bottle.

2. Shred quarter of a pound of beeswax and one ounce of white soap into a jar with a pint of hot water (rain water is best), place in oven till melted, stir thoroughly, then add one pint of turpentine. Mix well and keep in wide-mouthed corked bottle. Should stand for forty-eight hours before use. Put a little of this on a piece of flannel, rub thoroughly in, and polish off with an old silk handkerchief.

Note.—It is very injurious to furniture not to be regularly polished with some polish of this kind, as it helps to preserve, besides beautifying the wood. *Oil and vinegar* mixed in equal proportions is excellent for furniture cleaning. *Boiled linseed* oil is capital for rubbing up old oak furniture. Furniture that has been *French-polished* does not need furniture polish more than once in three months, but it must be kept bright by thorough rubbing every day with an old silk handkerchief.

Cleaning Fire Grates.

Remove all cinders and ashes, putting the cinders on one side for fires, brush all soot from register, and all dust from grate. Mix some scraped black-lead with a little turpentine into paste in a saucer, dip the small round brush into this and apply lightly all over the grate, then before it has time to get quite dry brush it off briskly with the hard grate brush, and polish all finally with the soft brush. The three brushes should be part of the equipment of the "house-maid's box," which should also contain emery-cloth for brightening the fire-irons. *Note.*—No grate will look well cleaned if the dust be not thoroughly wiped off before black-leading.

To Clean Steel Grates.

Fine emery-paper will clean the bars when they become

* When using furniture polish, only put on a little at a time, and rub it in evenly, going with the grain of the wood.

blackened. Polish with a leather. Sweet oil and rotten stone in a paste should be put on rust spots. Rub it off in a few hours and polish with a leather. Finely-powdered bath brick made into paste with equal parts of methylated spirit and water will keep steel fenders and fire-irons beautifully bright; dip a piece of flannel into it and rub on well. Polish after it with a leather.

To Clean Windows.

First, thoroughly rub dust off windows and sashes inside and out, and wash window sills, then clean the glass with a soft chamois leather wrung out of tepid water exactly as described for dusting furniture, except that the leather should first be used rather wet for cleaning each pane, then rinsed and wrung as dry as possible for polishing. Some people use precipitated* whiting (p. 78) moistened with water for window-cleaning, but it is more troublesome than the first method. It is rubbed over the glass, and when nearly dry rubbed off with a cloth and polished with a leather.

To Clean Mirrors.

Proceed exactly according to either of above methods. If the mirrors or windows have been neglected and are spotted with fly-marks, damp a soft sponge with methylated spirit and wash the marks off with this, then dust the glass with some fine powdered blue tied up in a soft muslin bag, after which polish with a fine old silk handkerchief or soft leather.

To Wash Painted Woodwork.

Painted surfaces should *never* be washed with hot or even very warm water; it injures the varnish, and the paint then soon wears off. Use only tepid water—rain water is best, or water that has been boiled first to soften it. Common soap containing much soda should not be used for delicate painted work. Sunlight soap, as it does not contain *free* alkali,† is the best for washing such things. For washing

* If whiting or chalk is not precipitated before use for these purposes the glass will be scratched.

† Soda, lime, and potash are alkalies and have corrosive properties.

the doors and painted woodwork of rooms, one pail, slightly warm, of soap-suds, and one of clean tepid water, a soft flannel and a sponge, a duster and soft cloth are needed. First wipe all dust off with the duster, then wash well, *beginning at the bottom and working upward*, with the flannel and soap suds; this prevents dirty marks from running down and making streaks. *Wash carefully into all corners and hollows in the mouldings*, rinse thoroughly with the sponge and tepid water, and dry well with the soft cloth. The painted work of rooms will last much longer, looking fresh and bright if washed in this way.

Sweeping and Washing of Floors and Carpets.

In sweeping a room begin at end and sweep towards fire-place, or towards one spot from which the dust may be gathered up. If the boards are very dusty, strew with wet tea leaves, or coffee grounds, or grass; it keeps the dust from rising and clinging to the walls. Sweep from each corner thoroughly, *outwards*. Never sweep boards with a stiff carpet broom, but with a hair brush. *For sweeping carpets use a twig and plenty of clean tea leaves*. Some ignorant servants make a boast of not using tea leaves when sweeping, and their ignorance has a very injurious effect upon their mistress's furniture, as they raise a cloud of dust which penetrates curtains, etc., clings to the walls, and soon makes everything shabby. Plenty of damp tea leaves prevents this, *but* they must be clean. It is curious how stupid some servants are in this simple matter. The leaves only need to be put into a clean pan under a running tap, well rinsed and squeezed out; but to save themselves this small bit of work, slovenly servants empty the teapot on to the carpet, or throw the tea leaves into a greasy colander, or sprinkle them out of the jar in which they have been gathering for days (tea leaves when kept in this way become very slimy), and the stain of the tea, the grease and slime, does much more harm to the carpet than the sweeping will do it good. Light-coloured carpets are much injured by such treatment. In sweeping Turkey, Wilton pile, Axminster, and all thick-piled carpets, *always brush the way of the pile*. If these carpets are brushed the reverse way, or against the grain so to speak,

the dust will be brushed *into* the carpet, which will soon become rough and dingy. Fur and hair rugs should be well shaken only, not beaten, unless lightly on the wrong side. Beating the hair breaks it.

Rules for Scrubbing Floors.

1. Scrub the way of the grain of the wood.
2. Don't try to wash a room with one pail of water. Directly the water is dirty change it for clean, or the boards will be discoloured from the dirty water.
3. Have two pails of water in use together. Scrub clean as far as the arm will reach with a well-soaped scrubbing brush. Dip a square of house flannel in second pail and rub well the way of the grain to remove soap and loosened dirt, then rub as dry as possible with a cloth. *This is the proper method for making boards a good colour*, and for preventing the floor from being a long time drying, as it is when washed carelessly with a lot of water slopped over it.

Remember these important points in Scouring Rooms:—

1. It is very dangerous to health to sit, and particularly to *sleep*, in a damp room, therefore *never* scour bedrooms late in the afternoon.
2. If possible, never scrub a room on a wet day.
3. Always leave windows and doors wide open after scouring, so that the air may dry the room.
4. *Never put carpets or rugs back till the floor is quite dry*; the damp will cause them to mildew and rot, and will injure the boards.

To take Grease Marks out of Boards.

It requires some trouble to do this. Mix fuller's earth and hot water into a paste. When it is cold spread a thick layer over marks. It must remain on for at least twenty-four hours, then scour it off with a scrubbing brush (first wiping the paste off with a wet cloth); if any marks remain repeat process until they are obliterated. Put a chair over the place while the fuller's earth is on the boards, so that it may not be trodden on.

To Wash Carpets.

If possible, carpets should be taken up before washing, so that they may be hung out to dry. If this cannot conveniently be done they may be washed on the floor, if care be taken to wet them as little as possible. If made very wet it will be almost impossible to dry them, and they will probably rot from damp. They should be washed as follows:—Shred about a quarter of a pound of soap into four quarts of boiling water; when it has cooled so as to be bearable, whisk up the soap into a lather, then with a clean scrubbing brush or a loofah wash the carpet *from seam to seam*, only washing *about a yard at a time*; rinse the soap thoroughly off each yard as it is washed with a cloth dipped in clean tepid water, and rub dry with another cloth before going on to the next yard. In this way the whole carpet will be nearly dry when all is washed, whereas if all was washed together and *then* dried, the first part would be soaked before the end of the carpet was reached. The windows and door should be open to allow the air to dry it, and this washing should only be done on a fine day. A loofah or new scrubbing brush should be used; never use a flannel with a carpet, the fluff will spoil it. Carpet soaps are made for this work, but Sunlight soap will be found just as good, if not better, because it is very efficacious in reviving colours, and will not injure them or corrode the woollen texture of the carpet.

To take Grease Spots out of Carpets.

Scrape off all the surface grease with a spoon (this will not cut as a knife would), lay blotting or brown paper over mark, and press gently with a rather hot iron (take care not to use the iron too hot, but it must be hot enough to melt the grease). Repeat with fresh paper if necessary.

To take Oil Stains from Carpets.

Proceed as for oil stains from boards, but instead of washing off, brush off the fuller's earth.

To take Ink Stains out of Carpets, Covers, etc.

Sop up quickly with blotting paper, then pour milk on and rub briskly with flannel.

To Destroy Moth in Carpet.

Wring a towel or folded sheet out of water, lay on part, and iron over with very hot iron. This destroys grubs and eggs.

To Clean Marble.

Equal parts of powdered chalk and pumice-stone, and the same quantity of soda, all sifted through fine sieve, make into paste with water. Wash marble with soap and water, spread paste over, leave it on for an hour or two, wash off and rub well. Sapolio answers as well for cleaning marble, and saves the trouble of sifting the materials. It is very injurious to the colour of marble wash-stands to let them lie wet constantly. They should be dried well after use.

To Clean Bedroom Utensils.

Put some soda into them, pour in *boiling* water, let them lie, then wash out with house flannel, or with a little mop made of tow or rag on stick. This removes the fur that gathers on neglected chamber utensils; but plenty of soda must be used, and the scrubbing must be brisk.

To Clean Brass Fenders, etc.

Polishing paste made especially for brass work can be bought at any oil shop; or sapolio can be used, it cleans brass well and easily: a wet flannel is rubbed on the square cake, then on the brass, polishing off with a leather. If the brass be badly tarnished, common paraffin oil on flannel, well rubbed in, will clean it beautifully.

To Clean Tiles (Hall or Fireplace).

Wash with soap and water and flannel, never with a brush. Rinse well. If stained, make a paste of lemon juice and salt, rub on with a rag, wash off with clean water. Keep special flannel for tiles, to avoid greasy marks.

Stairs and Hall.

Clean stair-rods once a week, as directed for brass.

To Wash Linoleum and Oil-Cloths.

If these are made very wet and left to dry they will soon rot. Wash with soft flannel and barely enough soap and water to clean them. Dry well, and polish with a flannel dipped in a little milk. Unless *very* dirty it is better to use no soap, but only a wet flannel, and the less often they are washed the better. Rubbing and sweeping will keep them clean, if done every day carefully.

Milk Stains on Door-Steps.

Use the same means for removal as for oil stains on boards.

Cleaning of Kitchen Utensils.

Common paraffin oil rubbed on with flannel is excellent for stoves and all iron-work.

To Clean Copper, Tins, etc.

Proceed as above for brass. If copper is in a bad state from neglect, procure one ounce oxalic acid, mix with quarter pint warm water, rub on with flannel, polish off with leather. This is a *poison*. Keep and use carefully; it will burn if dropped on leather chair-covers, etc., and injure the skin. *Copper cooking-vessels must always be tinned inside*. If the tin wears off it should be renewed.

For kitchen tins, tiles at back of range, plate-rack of range, use methylated spirit. This is an excellent cleaner for all black and greasy articles of this description. Kitchen tins, dish covers, etc., may also be cleaned as given below for plate cleaning.

To Clean Greasy Fire-Grates and Stoves.

Methylated spirit and black lead mixed into a paste cleans them well. Rub on well on a piece of flannel.

To Clean Greasy Saucepans, etc.

Nearly fill with hot water and a lump of soda the size of an egg. Allow the water to boil for some time, then brush inside well with small mop, pour away water, rinse with

more hot water, rub well with cloth, and stand near fire to dry. Scrape coating off outside gently, and scrub with brush. A flannel damped and dipped in fine ashes will clean iron and tin pots well, inside and out. Boiling water and soda will clean all greasy frying-pans, sinks, etc.

To keep Steel Goods from Rust when not in use.

Grease thoroughly or rub all over with paraffin, and wrap in plenty of paper.

PANTRY WORK.

To Precipitate Whiting.

Scrape a lump of whiting into a piece of fine muslin, tie it up like a bag, and let it hang into a jug nearly full of water (pass string round handle). Leave it all night, or till the whiting passes to bottom of jug, leaving grits in muslin; pour water off gently, leaving whiting at bottom. Dry, and keep in stoppered jar or tin with a lid.

To Clean Plate.

Wash in soap and water after use daily. Once a week after rinsing and drying rub well over with rag dipped in paste of precipitated whiting and water; when dry rub off with soft plate brush, carefully clearing crevices, and polish with leather. Hartshorn powder and water used instead of whiting is also excellent, and gives a beautiful polish. For much tarnished plate use hartshorn powder made into paste with spirits of wine, rub it lightly over articles, as above. Plate powders containing quicksilver ruin silver and plated goods. Many plate powders sold ready made contain it, therefore it is safer to use none of them.

To Clean Decanters.

Tea leaves and vinegar, or bits of brown paper, soaped, with plenty of warm water, or salt and vinegar, will brighten furred decanters. Let whichever is used remain in the decanter some time, shake well till clean, rinse till clear.

Wash glasses in cold water, polish with soft linen cloth. If greasy or milky, wash first in warm, strong soda and water.

Knives.

Never immerse entirely in hot water, it loosens the handles. Stand blades in hot water, not letting it reach joint of handle, then wipe well, rub and wipe handle. Polish the blades on a knife-board with some fine bath brick or knife powder. Rub lightly on board without pressing on ends, which wears knives to a fine point. Knife machines require care and are not fit to be trusted to careless girls. If the knives are put in greasy and unwashed, the brushes of the machine will be rendered almost useless, and may have to be renewed. Stains may be removed from blades of knives by rubbing them on a cut potato.

Washing Dinner or Tea Sets.

Wash in hot water, but if there is much gilding on the china *use no soda*; this flays off the gilding and soon makes the china look shabby. A flannel and hot water easily removes the grease without soda. Delicate china should not be put into boiling water, nor into a very hot oven, as it easily cracks.

DIRECTIONS TO HOUSE-PARLOUR-MAID.

Visitors.

(1) Answer visitor's knock promptly, and throw the hall door wide open, replying to questions as you stand holding it back, not coming forward close to visitor, as untrained and ignorant servants do. (2) Speak clearly, so as to be distinctly heard. Some servants mumble so that it is hard for the visitor to understand what they say. (3) Don't be afraid to speak out, but there is no need to shout. (4) From three o'clock the house-parlour-maid should wear a spotless apron with pretty trimmed shoulder straps, cap, collar, and cuffs. A dirty servant is a disgrace to the house and its mistress. (5) If the lady is not at home and the

visitors leave cards, come forward to receive them, then stand holding door open till visitor has quite gone. If she has come in a carriage and has no footman, follow her, open carriage door, and see her into it. (6) If visitors enter, stand back until they come in, then close door, and precede them upstairs to the drawing-room; at door ask name if you don't know them, then open the drawing-room door widely. If your mistress is in the room, announce visitors' names as distinctly as possible. If mistress is not in the room, *shut the door upon the visitors*, and go to tell the mistress of their arrival. It is a mark of very bad training when a servant shows visitors in and goes away leaving the door wide open behind her. When drawing-room bell rings be ready to open hall door for visitor's departure. Tea is generally taken up when visitors arrive between four and five o'clock without the mistress ringing for it. If the bell rings and you don't soon hear the visitor descending, you may go to the drawing-room to inquire if anything is wanted. *Never* knock at drawing-room door before opening it to announce a visitor in the afternoon. If a visitor's conveyance arrives for her in the course of an afternoon party, stand at drawing-room door and say, "Mrs. So-and-so's carriage," or open the door and announce it. If visitors give you cards, leave them on the hall table, don't take them to mistress in visitor's presence. Be sure to point out to your mistress cards of those who call in her absence. Always hand letters or cards on a salver, *never* in the fingers. When announcing dinner, stand at the drawing-room door and say in a distinct voice, sufficiently loud to be heard, "Dinner is served."

WAITING AT TABLE.

1. Never speak, unless to answer a question or to say name of wine when taking decanters round.
2. Stand when unoccupied before sideboard.
3. Place dishes, remove covers, and pour out wine or water to right hand of each person.
4. Hand plates, offer vegetables, *entrées*, sweets, cheese, etc., to the left.
5. If beer is required, present the glass containing it on

a salver at the left hand. When the glass needs replenishing, offer the salver at the left hand, receive glass, fill and return on left.

6. In changing plates, remove with right hand and place with left, standing on left hand.

7. Watch every one's requirements and hand bread, vegetables, sauces, etc., in silence, and without being asked for them.

8. When wine-glasses are empty quietly replenish them without asking if you shall do so; if the wine is not required the guest will intimate it.

9. When sweets are removed, take crumbs quickly and quietly from cloth with slice into crumb dish; see that all salt cellars, etc., are taken away; place a dessert plate with upon it a d'oyley, a finger bowl half full of water, and a dessert knife and fork on each side of it, before each guest, and after handing such dessert dishes as are not on the table to each person, place them on the table and leave the room, shutting the door. During dinner the plates, etc., should be taken from the room after each course, so that there may be no unsightly litter on side-board. Do not take knives and forks or scraps from plates in the room, but gather them quietly on a tray and remove them.

LAMPS.

Uninflammable kerosene oil is the safest lamp oil, as it will not explode; it costs from 10d. to 1s. a gallon.

Fill the oil reservoir every morning, first removing shade, chimney, and wick-holder. Pinch off all charred wick; this is better than constant cutting. When cutting wick great care is needed, so that it shall be quite even; the least scrap of wick higher than the rest causes flame in the chimney and bad light. Lamps should be filled in the morning, so that the wick may be well filled with oil before lighting. The wick should just fill the wick-holder without having to be squeezed into it. *Double wicks*, as in duplex lamps, burn twice as much oil as single wicks. Keep chimneys and globes and all metal parts very clean, but do not wash *chimney* in water; this causes it to crack easily. Polish chimneys with a little mop of wash-leather on a

stick. When the lamp is lit keep flame very low for a minute, so that chimney may warm, then turn up. *It is the neglect of this simple precaution that causes the extravagant chimney smashing that goes on in some houses.* Never blow down a lamp to extinguish it, *especially a paraffin lamp, because the flame may blow back into the oil and cause an explosion ; lower the wick, and the light soon goes out.*

CHAPTER VI.

MARKETING—CHOOSING AND KEEPING FOOD.

A GOOD housekeeper must understand marketing, which must be learnt by practice and experience. The following hints will be useful to the inexperienced.

Beef should be bright red, the fat of a yellowish colour; when pressed with the finger the flesh should rise quickly. When a line of horny substance runs between fat and lean, or when a very thick layer of gristle is under fat, it shows the animal was old. Beef in prime condition is *marbled*—i.e., has little streaks of fat running through the lean.

Mutton should be of firmer flesh than beef, bright red, with firm white fat. If the animal was old, the skin remains wrinkled when pinched.

Veal should be pale, with firm white fat.

Lamb should be firm, with white fat.

Pork should be firm, with thin, smooth rind. Good *dairy-fed* pork is the best. Pork from which the rind (crackling) has been already pared should not be bought for roasting; it is only pared off heavy, coarsely-fed pork, which is very inferior eating. Beef and mutton should hang as long as possible before cooking. Pork should never be eaten in hot weather. Very pale or deep purple beef or mutton should not be bought, but it must be remembered that meat which has been cut and hung some time becomes darker than when fresh cut, although it may be excellent meat. Good English meat should not become wet and flabby while keeping. Frozen meat, however, will thaw and give out moisture in a warm room. This kind of meat should always be *thoroughly thawed before cooking*. It is the neglect of this point that often brings discredit on New

Zealand meat. If a frozen joint be put into oven or to fire, the frost is driven in and injures the flavour, whereas if it be kept in the kitchen for a few hours before cooking the frost is slowly extracted.

Ham.—American hams can be bought for sixpence per pound. They are rather lean and hard, but, considering the low price, are good. English and Irish hams vary from tenpence per pound upward. A short, thick ham should be chosen in preference to a long flat one. To judge if a ham be good, plunge a knife into it and smell the blade when withdrawn; no trace of flesh should adhere to blade.

Bacon should have firm white fat, and bright pink lean adhering firmly to the bone. If the lean is very red it is the result of over-salting. Reject bacon which has yellow marks in the fat and smells musty.

Fish should have very firm flesh; if it is flabby it is stale. *Stale fish is very dangerous to eat*. The gills should be red, the eyes bright, and the scales not rubbed off. If the eyes are dull, sunken, or blood-shot, the fish is stale. If the scales rub off very easily it shows that the fish is long out of water. Rigidity in fish is a sign of freshness.

Salmon should have a small head and tail, with bright scales, flesh bright pink, and the blood should flow freely when the fish is cut in two.

Turbot should not have a blistered skin but be moist, and the light side should be very pale cream colour. Short, stout, thick-shouldered fish of all sorts are always better than long thin ones.

Lobsters and Crabs.—In choosing unboiled lobsters and crabs, if you doubt their being still alive, press between the eyes; if alive they will move their claws. It seems a barbarous practice, but these two fish are much better to eat if they are boiled while still alive. In choosing boiled lobsters take the tail between finger and thumb and move it; if it possesses elasticity the fish is fresh; if limp, it is stale. Always take up boiled lobsters and crabs in the hand before purchasing them; if they feel *light* they will prove poor and watery. Very small lobsters are hardly worth buying, and *very* large ones, with barnacles sticking to the shells, will prove tough and stringy. *Shrimps* and *prawns* should be crisp and rather curled, otherwise they are stale.

Oysters should have tightly-closed shells. When they open easily they are stale. Small, smooth-shelled oysters are best for eating raw. "Native" oysters are of this sort. They are, of course, twice the price of the big, rough-shelled foreign oysters, which do very well for patties, sauce, stewing, etc.

Poultry should have bright unsunken eyes, smooth moist feet, and no green shade round vent. The opposite signs show they are stale. Old birds have very rough scaly feet. In choosing a fowl see that it has a plump, meaty breast; press the breast bone, if this is rigid the bird is old, if young and tender the projection of the breast bone will be pliable. Reject a bruised fowl or one with purple-hued legs. The same holds good of a *turkey*, which, when young, will have smooth black feet. A young *goose* has yellow bill and feet. Enormously large turkeys and geese are never good eating. They are the old gobblers and ganders, paterfamilias of many great-grandchildren. Smaller birds, provided they are plump, are much better eating. In ordering a goose always tell the man to send home the *giblets*. These are the gizzard, neck, etc., of the bird, which make delicious soup; but if not asked for them, some poulterers keep them as their own perquisite; they should not attempt to charge extra for them over the original price asked for the bird. In like manner poulterers, in London at all events, have sometimes a mean little trick of not sending home the gizzards and livers of fowl, because these can be sold separately, or they send home the bird trussed with only *half* of its gizzard and liver, having sliced off and kept the other half. The wary housewife should demand her rights, and whether she desires the bird to be trussed for roasting or boiling, should request its entire liver and gizzard to be sent tucked under each wing, after the poetical arrangement invented by the poulterer. *Tame ducks* have yellow feet, *wild duck* has red feet. Unless a duck is plump it is not worth eating.

Hares and *rabbits*, if young, have smooth, sharp claws, the cleft in the upper lip is narrow, the ears are pliable and tear easily. Game of various kinds, if young, have tender feet and sharp claws. Young partridges may be known by their yellow legs and dark bills.

Vegetables should not look flabby or faded. Break a leaf or pod, if fresh it will break crisply, if stale it will be limp. In towns they are often watered when stale to give them a fresh appearance.

Butter of the best quality is firm, not highly coloured, does not exude water when cut, and smells pleasantly. Always smell, and ask to be allowed to taste butter before buying it. Very salt butter will keep for a considerable time in a cool place, and if well kneaded in cold water most of the salt can be removed.

Eggs can be tested as to their freshness in two ways. (1) Hold up before a candle or to the light; if clear they are fresh. (2) Mix an ounce of salt in half a pint of water, put in an egg; if stale it will float, if fresh it will sink; if very bad it will float in fresh water. If, on holding up to a candle, you see that the air bubble at the large end of shell is very small, you may know the egg is quite new laid. Eggs may be *preserved* quite as good as new-laid by simply greasing the shells all over *the day they are laid*. This excludes the air, because egg shell is porous, and it is the air entering the shell that causes the egg to become bad. Some people, with large quantities of eggs to deal with, put them in a net and dip this for half a minute in boiling water, which coagulates the albumen and excludes the air; but greasing is a better plan, the eggs being found milky many weeks after they are laid.

Flour should be white, without grits. To test for alum, sometimes used to whiten it, mix a spoonful of flour with a teacupful of solution of logwood; if alum is in the flour the mixture becomes permanently a purple blue colour; if not, the colour soon fades.

Tea.—If the presence of iron filings (used to increase weight) be suspected, move a magnet through the tea, the iron will cling to it. *Coffee*, if pure, cannot be pressed into a coherent mass; if it be mixed with chicory it can. If thrown into water pure coffee floats, chicory sinks and colours water. Moisten a pinch, and if chicory be in it this will become soft, like bread crumbs, while the coffee remains hard.

Tinned Foods of every kind should be removed from the tin directly it is opened. Tinned milk may remain in tin

if covered from air. If top of tin containing fish, meat, etc., *bulges*, it shows that air has entered; if so, the contents have probably begun to putrefy. Poisoning frequently occurs from eating tinned fish, etc., which has begun to decompose. The contents of all tins should be carefully examined and smelled before eating.

Stewed kidney, veal cutlet, herrings in shrimp sauce, and many other dainties of like nature, can now be had in tins. A few tins of such things should be kept in the store-room, they will often be found most useful when unexpected guests arrive.

To keep Food.

Much waste may be avoided by care in the keeping of food. A *dry* larder and store-room is necessary if food is to be kept for any length of time, as in country places. Damp quickly causes putrefaction to set in.

Meat keeps best hanging with cut side up. In summer it should be closely covered with muslin to preserve it from flies. Dusting with pepper is also useful. In damp, muggy weather meat should be wiped every day. It keeps very badly in such weather. A round of beef keeps better if the "kernel" and marrow from bone be removed, and the piping that runs along the loin bone should be taken out if this joint of meat has to be kept any time.

Hang fish up by gills or tail, or lay, after cleaning and drying, on stone floor in a cool place. Remember that fish does not bear keeping for more than a few hours. In hot weather fish should be cooked as soon as possible, or it may be boiled for a few minutes in the morning if for evening dinner, and the cooking finished after. It must, of course, be removed from the fish kettle and laid in a cool place.

Fowl and *Game* should not be plucked nor drawn if they have to be kept, but hung up by the feet.

Tea, Coffee, Cakes, Biscuits, etc., should be kept in tins with closely-fitting lids. An earthenware bread-pan with lid keeps *Bread* from drying quickly.

Of all things the store-room, where milk and butter are kept, should not be near a drain or any evil-smelling thing like a manure heap. *Milk has great capacity for absorbing*

noxious gases, therefore it should be kept in a pure place, or it may become actually poisonous. If butter be kept near cheese it will absorb the flavour of the cheese. A very useful preparation for preserving milk, cream, soup, etc., sweet in the hottest weather is *Semper Dulcis*.^{*} Most grocers can procure it if asked to do so. As much as will lie on a shilling will preserve a pint of liquid for a long time. It can also be used to keep fish, etc., sweet. Tea should not be kept near coffee, nor soap near cheese. Dust, mice, and insects all injure carelessly-kept provisions. Muslin squares, wire covers, and jars with lids will preserve from these. Flour and oatmeal, etc., should be stored in a dry place, in wooden boxes raised above floor if it is of stone. The longer soap and candles are kept the better, as they grow hard and last much longer than when fresh.

Storing of Fruit and Vegetables.—*Apples*—wipe, reject bruised ones, strew on straw in dry attic without letting them touch each other. Hang *pears* and *grapes* by stalks.

Potatoes for winter should be stored about September either in a pit dug out and lined with straw, in which they are put and covered with straw and earth, or in a dry cellar well protected from frost with straw. Inspect them every couple of months, remove any that are bad, and pick off sprouts if they grow. *Artichokes* may be kept in the same way. *Turnips* keep well on the floor of a dry cellar. *Carrots* and *parsnips* plunged up to crowns in a bank of damp sand in a cellar will keep fresh a considerable time.

Bear in mind that *Coal* is much cheaper in summer than in winter. If possible, fill up cellars in summer, a *great* saving is effected thereby. Also remember that it is cheaper to buy in large than in small quantities things that will not injure by keeping.

TABLE OF THINGS IN SEASON EACH MONTH.

JANUARY.

Meat.—Beef, House Lamb, Mutton, Pork, Veal, Venison.

Fish.—Barbel, Bloaters, Bream, Brill, Carp, Cockles, Cod, Crabs, Crayfish, Doreys, Eels, Gurnard, Haddocks, Halibut, Hake, Herrings, Ling,

^{*} Prepared by J. Boulton & Co., Stratford, London, E.

Lobsters, Lampreys, Mussels, Oysters, Perch, Pike, Prawns, Scallops, Shrimps, Skates, Smelts, Soles, Sprats, Sturgeon, Tench, Turbot, Winter Whitebait, Whiting.

Poultry and Game.—Fowl, Grouse, Geese, Hare, Partridge, Pigeons, Pheasants, Plover, Quail, Ptarmigan, Rabbits, Snipe, Turkeys, Teal, Woodcock, Wild Fowl.

Vegetables.—Artichoke (Jer.), Beetroot, Brocoli, Brussels Sprouts, Cabbages, Carrots, Celery, Chervil, Parsnips, Potatoes, Savoys, Spinach, Turnips, Tomatoes.

Fruit.—Almonds, Apples, Bananas, Grapes, Medlars, Nuts, Oranges, Pears, Dried Fruit.

FEBRUARY.

Meat.—Beef, Mutton, Veal, House Lamb, Pork.

Fish.—Bloaters, Carp, Cod, Cockles, Crabs, Crayfish, Doreys, Eels, Flounders, Gurnets, Herrings, Haddocks, Lobsters, Mackerel, Oysters, Plaice, Perch, Pike, Salmon (dear), Scallops, Shrimps, Skate, Smelts, Sprats, Trout, Tench, Whitebait.

Poultry and Game.—Black Game (foreign), Capons, Chickens, Capercailzie, Ducks, Fowl, Geese, Hares, Larks, Landrails, Pheasants, Partridges, Plover, Ptarmigan, Prairie Hens, Rabbits, Snipe, Turkeys, Teal, Widgeon, Woodcock.

Vegetables.—Artichokes, Beet, Brussels Sprouts, Celery, Chervil, Cabbages, Cucumbers, Greens, Leeks, Lettuce, Mushroom, Onions, Parsnips, Potatoes, Salsify, Savoys.

Fruit.—Apples, Bananas, Figs, Grapes (hothouse), Melons (foreign), Nuts, Oranges, Pines (English), Pears, Rhubarb (forced).

MARCH.

Meat.—Same as February.

Fish.—Bloaters, Carp (until 15th), Crabs, Cockles, Cod, Crayfish, Doreys, Eels, Flounders, Gurnets, Haddocks, Lobsters, Mackerel, Oysters, Perch, Pike (both till 15th), Salmon, Scallops, Smelts, Skate, Sprats, Shrimps, Trout, Turbot, Tench (until 15th), Whitebait.

Poultry and Game.—Black Game, Capons, Chickens, Capercailzie, Ducks, Ducklings, Fowl, Geese (wild), Guinea Fowl, Hares, Landrail, Ortolans, Partridges, Pheasants (both until 12th), Plover (until 15th), Ptarmigan, Prairie Hens, Quails, Ruffs and Reeves, Rabbits, Snipe (till 15th), Teal, Widgeon, Woodcock.

Vegetables.—Same as February, adding New Potatoes, Spinach, Tomatoes.

Fruit.—Same as February.

APRIL.

Meat.—Beef, Mutton, Lamb, Veal, Pork.

Fish.—Bloaters, Crabs, Crayfish, Cockles, Cod, Eels, Flounders, Gurnets, Haddocks, Lobsters, Mackerel, Oysters, Prawns, Salmon, Scallops, Smelts, Skate, Sprats, Shrimps, Trout, Turbot, Whitebait.

Poultry and Game.—Capons, Chickens, Ducks, Ducklings, Fowls, Guinea Fowl, Hares, Leverets (*i.e.*, a hare in its first year), Ortolans, Prairie Hens, Plovers' eggs, Quails, Ruffs and Reeves, Rabbits.

Fruit.—Apples, Almonds, Bananas, Figs, Grapes (hothouse), Pines, Rhubarb. (Oranges can now be had all the year round, but the best kinds, as Jaffas, are going out in late spring.)

Vegetables.—Artichokes, Asparagus, Beet, Cucumbers, Chervil, Eschalots, Leeks, Lettuce, Onions (Spring), New Potatoes, Parsnips, Spinach, Tomatoes, Turnips (young).

MAY.

Meat.—Beef, Mutton, Lamb, Veal. (Pork can be had all the year round, but should not be eaten in summer.)

Fish.—Bass, Brill, Bloaters, Crabs, Crayfish, Cockles, Eels, Gurnets, Halibut, Haddocks, Lobsters, Mackerel, Plaice, Prawns, Salmon, Soles, Scallops, Smelts, Skate, Shrimps, Turbot, Trout, Whiting, Whitebait.

Poultry and Game.—Capons, Chickens, Ducks, Fowls, Guinea Fowl, Hares, Leverets, Ortolans, Plovers' eggs, Quails, Ruffs and Reeves, Rabbits.

Fruit.—Apples, Almonds, Bananas, Currants (at end of month), Figs, Grapes, Green Gooseberries, Oranges, Pines, Rhubarb.

Vegetables.—Asparagus, Beet, Carrots (new), Cucumbers, Lettuce, Potatoes (new), Spring Onions, Turnips (new), Spinach.

JUNE.

Meat.—Beef, Mutton, Lamb, Veal, Venison.

Fish.—Bass, Brill, Bloaters, Carp (after 15th), Cockles, Crabs, Crayfish, Eels, Gurnets, Halibut, Haddocks, Lobsters, Mackerel, Plaice, Perch (after 15th), Prawns, Pike (after 15th), Salmon, Soles, Shrimps, Turbot, Trout, Tench (after 15th), Whiting, Whitebait.

Poultry and Game.—Capons, Chickens, Ducks, Fowls, Goslings, Hares, Leverets, Ortolans, Plovers' eggs, Quails, Ruffs and Reeves, Rabbits, Turkey Poults.

Fruit.—Almonds, Bananas, Cherries, Currants, Figs, Grapes, Gooseberries, Pines, Raspberries, Strawberries.

Vegetables.—Asparagus, Beetroot, Carrots (new), Cucumbers, Chervil, Greens, Leeks, Lettuce, Peas, Potatoes (new), Spring Onions, Spinach, Tomatoes.

JULY.

Meat.—Beef, Lamb, Mutton, Veal, Venison.

Fish.—Bass, Brill, Bloaters, Carp, Crabs, Crayfish, Cockles, Doreys, Eels, Gurnets, Herrings (end of month), Halibut, Haddocks, Lobsters, Mullet (Red and Grey), Plaice, Perch, Prawns, Pike, Salmon, Soles, Shrimps, Sea-bream, Turbot, Trout, Tench, Whittings, Whitebait.

Poultry and Game.—Capons, Chickens (not the young Spring Chickens, which are out now), Ducks, Fowls, Goslings, Hares, Leverets, Ortolans, Plovers' eggs, Quails, Ruffs and Reeves, Rabbits, Turkey Poults.

Fruit.—Almonds, Bananas, Cherries, Currants, Figs, Grapes, Gooseberries, Pines, Raspberries, Strawberries.

Vegetables.—Asparagus, Beet, Broad Beans, Cucumbers, Cabbages, Chervil, French Beans, Leeks, Spring Onions, Scarlet Runners, Peas, Potatoes (new), Spinach, Tomatoes.

AUGUST.

Meat.—Beef, Lamb, Mutton, Veal, Venison.

Fish.—Bass, Brill, Bloaters, Carp, Cockles, Crabs, Crayfish, Doreys, Eels, Flounders, Gurnets, Herrings, Halibut, Haddocks, Lobsters, Mullet.

Oysters (after 4th), Plaice, Perch, Prawns, Pike, Salmon, Soles, Shrimps, Sea-bream, Turbot, Trout (river trout at their best this month), Tench, Whiting, Whitebait.

Poultry and Game.—Capons, Chickens, Ducks (wild and tame), Fowls, Grouse (from 12th), Hares, Larks, Leverets, Plover, Rabbits, Snipe, Teal, Turkey Poults, Widgeon, Woodcock.

Fruit.—Apricots, Almonds, Bananas, Cherries, Currants, Filberts, Figs, Ditto Green, Gooseberries, Grapes, Greengages, Melons, Mulberries, Nectarines, Pines, Pears, Peaches, Plums, Raspberries, Strawberries.

Vegetables.—Beetroot, Cauliflowers, Cucumbers, Cabbages, Chervil, Field Mushrooms, French Beans, Leeks, Peas, Scarlet Runners, Spinach, Vegetable Marrow.

SEPTEMBER.

Meat.—Beef, Mutton, Lamb (N.Z.), Pork, Veal.

Fish.—Bass, Brill, Bloaters, Carp, Crabs, Cod, Cockles, Crayfish, Doreys, Eels, Flounders, Gurnets, Herrings, Halibut, Haddocks, Lobsters, Mackerel, Mullet, Oysters, Plaice, Perch, Pike, Salmon (till 7th), Soles, Shrimps, Sea-bream, Turbot, Trout (till 7th), Tench, Whiting.

Poultry and Game.—Capons, Chickens, Ducks (wild and tame), Fowls, Geese, Grouse, Hares, Larks, Partridges, Pheasants, Plovers, Rabbits, Snipe, Turkeys, Teal, Widgeon, Woodcock.

Fruit.—Apples, Apricots, Almonds, Bananas, Cherries, Cobnuts, Damsons, Filberts, Figs, Ditto Green, Grapes, Greengages, Melons, Medlars, Mulberries, Nectarines, Pines, Pears, Peaches, Plums, Walnuts.

Vegetables.—Brussels Sprouts, Beetroot, Celery, Cauliflower, Capsicums, Chillies, Cabbages, Chervil, Cucumbers, French Beans, Field Mushrooms, Leeks, Parsnips, Scarlet Runners, Spinach, Tomatoes, Vegetable Marrows.

OCTOBER.

Meat.—Beef, Lamb (N.Z.), Mutton, Pork, Veal, Venison.

Fish.—Bloaters, Brill, Carp, Crayfish, Cockles, Cod, Doreys, Eels, Flounders, Herrings, Halibut, Haddocks, Lobsters, Mullet, Mackerel, Oysters, Plaice, Perch, Pike, Soles, Scallops, Smelts, Skate, Shrimps, Sea-bream, Turbot, Tench, Whiting.

Poultry and Game.—Black Game, Capons, Chickens, Capercaillie, Ducks (wild, etc.), Fowls, Geese, Grouse, Hares, Larks, Pheasants, Partridges, Plovers, Rabbits, Snipe, Turkeys, Teal, Widgeon, Woodcock.

Fruit.—Apples, Apricots, Almonds, Cobnuts, Filberts, Figs, Grapes, Melons, Medlars, Nectarines, Oranges, Pines, Pears, Peaches.

Vegetables.—Artichokes (Jer.), Brussels Sprouts, Beet, Celery, Cauliflowers, Capsicums, Chillies, Cucumbers, Chervil, French Beans, Greens, Leeks, Parsnips, Savoys, Scarlet Runners, Turnips, Spinach, Tomatoes, Vegetable Marrows.

NOVEMBER.

Meat.—Beef, Lamb (N.Z.), Mutton, Pork, Veal, Venison.

Fish.—Brill, Bloaters, Carp, Crabs, Cockles, Cod, Crayfish, Doreys, Eels, Flounders, Herrings, Halibut, Haddocks, Lobsters, Mackerel, Oysters, Plaice, Perch, Pike, Soles, Scallops, Smelts, Skate, Sprats (from 9th), Shrimps, Turbot, Tench, Whiting.

Poultry and Game.—Black Game, Capons, Capercaillie, Chickens, Ducks (wild and tame), Fowls, Geese, Grouse, Hares, Larks, Landrails,

Pheasants, Partridges, Plovers, Ptarmigan, Rabbits, Snipe, Turkeys, Teal, Widgeon, Woodcock.

Fruit.—Apples, Almonds, Bananas, Chestnuts, Figs, Grapes, Melons, Oranges, Pines, Pears, Pomegranates, Quinces, Walnuts.

Vegetables.—Artichokes (Jer.), Brussels Sprouts, Beet, Celery, Carrots, Cauliflowers, Chervil, Greens, Leeks, Parsnips, Savoy, Spinach (winter).

DECEMBER.

Meat.—Beef, Lamb (N.Z.), Mutton, Pork, Veal, Venison.

Fish.—Brill, Bloaters, Carp, Crabs, Crayfish, Cockles, Cod, Doreys, Eels, Flounders, Gurnets, Herrings, Halibut, Haddocks, Lobsters, Mackerel, Oysters, Plaice, Perch, Pike, Soles, Scallops, Smelts, Skate, Sprats, Shrimps, Tench, Whiting.

Poultry and Game.—Black Game, Capons, Capercaillie, Ducks, Fowls, Geese, Grouse (till 10th), Hares, Larks, Landrails, Pheasants, Partridges, Plovers, Ptarmigan, Rabbits, Snipe, Turkeys, Teal, Widgeon, Woodcock.

Fruit.—Apples, Almonds, Bananas, Cob, Cocoa, and Chestnuts, Figs, Grapes, Melons, Oranges, Pears (winter), Pines, Rhubarb (forced), Walnuts.

Vegetables.—Artichokes (Jer.), Brussels Sprouts, Beetroot, Celery, Cucumbers, Greens, Leeks, Carrots, Parsnips, Turnips, Tomatoes, Winter Spinach.

Onions, lemons, small nuts, and dried fruits can always be had. Tomatoes and many other things, such as fruits, poultry, game, and vegetables, forced or brought from abroad, can be had at all times, irrespective of their being properly in season; but they never are as good as when produced in their own proper season.

CHAPTER VII.

LAUNDRY WORK AT HOME.

WASHING ought to be done once a week, certainly not less than once a fortnight. The sooner things are washed after they are soiled the more easily they are cleaned. Leaving things lying for a long time dirty makes them a bad colour permanently; and if they lie in a damp place they will mildew, and mildew marks are very hard to remove. It will be a great economy to wash the small things and flannels at home, even if the large heavy articles have to be sent out. Washing flannels and woollens is often thought to be very difficult; it is really very easy if done in the right way, much easier than washing cottons and linen, which need starching and "doing up."

To Wash Flannels and Woollens.

Shake them well to take the dust out. Put into a tub about a quarter of a pound of soap, very thinly shred, pour over it a couple of gallons of boiling water, and beat it up with a stick till it is in a lather and the soap is all dissolved. When it has cooled down and is only *warm*, put the flannels in, *souse* and work them well, *but do not rub them*. With thorough working they will soon be clean; then put them into another tub and rinse in several waters (*warm, not hot*) till all the soapy water is out, squeeze them as dry as possible, and hang to dry, if possible, out of doors, but not in a very hot midday sun, and never near a large fire, because it shrinks wool to dry it in great heat. When nearly dry iron *on wrong* side, with a piece of cotton between iron and flannel; the iron must be only *moderately* hot. Washed in this way all flannels or woollens will remain soft and keep their colour, instead of becoming

hard and yellow, as they do when badly washed. Soap should never be rubbed on woollen material; it knots the fibre and hardens it. Neither should it be wrung—*i.e.*, *twisted*; this injures the fibre. If possible have a *wringer*; this expresses the water without twisting, and it can be bought for a few shillings to fit any tub. Children's serge and woollen suits, cloaks, coats, blankets, etc., can all be washed beautifully by the above method. For washing woollens nothing excels Sunlight soap, as its alkali is not *free*, and therefore does not corrode the fibre. A washing machine is a great help in families where large things, blankets, etc., are washed at home. Price from 30s., according to size and make. Some machines are also constructed to wring and mangle. They save a great deal of hand labour.*

Soft water loosens dirt and saves labour. Rain water should be caught and stored when possible. Boiling water somewhat softens it. Borax softens water and is *much* less injurious than soda, which is very corrosive. One simple rule saves much labour in washing linens and cottons. *Always soak, if possible, for twenty-four hours in cold water before washing.* This loosens dirt and saves soap and labour. Never soak flannels beforehand.

To make Starch.

Starch is used raw, or boiled. *Raw* is for starching cuffs, collars, and shirt-fronts, which can hardly be too stiff. *Boiled* is for table-linen, etc. To make *raw starch* mix smoothly a table-spoonful of starch with enough cold water to make it of the consistence of cream. To make *boiled starch* mix a table-spoonful of starch with just enough cold water to form a smooth paste, then pour on *boiling*, not merely hot, water, stirring well while doing so till a clear jelly is formed. The consistence of the jelly must depend on the articles to be starched with it. For muslins a thin water jelly is needed; for table linen, etc., it must be thicker. Use hot or cold.

* Brushes are often used in laundries; they are very destructive to the fabric scrubbed by them. Shirts, cuffs, and collars so treated are quickly frayed at edges. People who have their things washed at home find they last much longer than when sent to the laundry.

To Starch Cuffs, Collars, and Shirt Fronts.

These must be quite clean and dry. Dip into and soak in the raw starch, squeeze out of it, roll up in a clean cloth tightly and leave for half-an-hour or more, so that the starch may soak into the linen, then take the things out of the cloth, rub them all over to free from loose starch on surface, lay each article flat on a clean cloth, and iron with a very hot iron. Experience and practice is needed to do this well. Care is needed that iron, starch, and cloth be thoroughly clean, as the least speck will leave a smudge. Always try the iron on a rag for fear of scorching. To prevent the iron sticking to the linen, add to the *raw* starch while making half a teaspoonful of powdered borax previously dissolved in one table-spoonful of boiling water and four drops of oil of turpentine, or stir a piece of wax candle or soap round and round in the starch after it is mixed. If too much turpentine be used it makes linen yellow. To boiled starch add, to prevent the iron from sticking, the same quantity of borax as above, and a piece of shred wax or soap, size of a large pea. In starching a shirt, the front, cuffs, and collar only are to be dipped in the raw starch. Always stir raw starch up well from bottom of bowl before using.

For Glossing Collars, Fronts, etc.

Pour a pint of boiling water on two ounces of white gum arabic, powdered; next day pour liquid from dregs carefully into bottle, cork. A table-spoonful stirred into a pint of raw starch will give a fine gloss to the linen.

CHAPTER VIII.

RULES FOR HOUSEHOLD HEALTH.

1. *Cisterns*, if made of lead, should never be cleaned with hard brushes; the dark coat that gathers on it must not be touched, as this protects the water from the poison of lead. Cisterns should be well covered.

2. *Dust-bins*.—*Organic matter*—i.e., refuse of fish, meat, bones, and vegetables—should never be put into the dust-bin; they decompose there and give rise to poisonous gases. They should be burnt in the kitchen fire, or put in a box in the yard, covered with lime or ashes, for dust-cart to remove. Only *dry* refuse should be put into dust-bins, as moisture tends to promote mould and the generation of noxious gases.*

3. *Filters* do more harm than good unless they are *kept clean*. Dirty filters are sometimes swarming with tiny worms. Directions should be obtained with every filter for its proper cleansing, and it should be frequently cleansed.

4. *Grease* should never be poured into sinks; when cold it clogs the drain-pipes. If pots, etc., containing it be left till cold the grease can be gathered off, and serves for many useful purposes.

5. *Larders*, to be wholesome, should face north, be light, dry, and airy, and quite free from the proximity of drains and bad smells.

6. The W.C. should *never* be situated in the middle of the house. This is a position dangerous to health of house.

* Berlin used to be a city of horrible stench, but since all householders have been *compelled* to use sanitary movable dust-bins of galvanised iron, and only to put dry refuse into them, the city has become "a pattern as to sanitation and cleanliness for other towns."

7. It is very important that a pail of *boiling* (not simply hot) water should be poured down sinks and water-closets frequently. This clears the pipes from greasy and other deposits in a way that a cistern full of cold water cannot do, and by this simple method much trouble with drains may be avoided.

8. *Children are frequently rendered near-sighted by studying in badly-lighted rooms.* School-rooms and nurseries can hardly be too light.

9. An excellent household purifier, as good as Condyl's fluid, but infinitely cheaper, is *Permanganate of Potash*. It is a valuable deodoriser (destroyer of bad smells), is useful for washing sores, for gargling, for putting in chamber utensils in illness, down sinks, etc., and for general household purifying. As much as will lie heaped on a threepenny piece, shaken up in a pint of water, is about right for ordinary use. One pennyworth will make many quarts. The stain it leaves if dropped upon linen may be removed by soaking in lemon juice and salt.*

* This will also remove ink stains from linen. It is just as efficacious and not so injurious to linen as salts of lemon.

CHAPTER IX.

REMINDERS FOR HOUSEHOLD THRIFT.

1. REMEMBER that *ashes* and *cinders* do not mean the same thing. Ashes may be thrown away, unless kept for cleaning pots or put on floor of a fowl run, or used in a garden; but cinders are only second in value to coal. It is sinful waste to throw them into the dust-bin, as so many servants do.

2. Remember that a wire shovel costing sixpence will easily separate cinders from ashes, and one should be in every thrifty house.

3. Remember that soot is a *non-conductor*. If flues, or pots, kettles, etc., are coated with it, the water in them will take longer to heat, and therefore more fuel will be consumed than if they were clean.

4. Remember that dried potato parings make good fuel.

5. Remember that fires can be lighted much more quickly and easily if the sticks be smeared with the grease that some thriftless folk throw down the sink.

6. Remember that it is *not* necessary to use a whole bundle of wood in lighting a fire. It can be done with five or six sticks and a little care.

7. Remember that if dripping is clarified it will be nearly as good as butter for pastry-making. *Method*—Put dripping into a basin, pour *boiling* water over and let it stand till cold, then scrape impurities off the underpart. For good pastry, dripping should be clarified in this way *three* times over.

8. Remember that dripping in which fish or onions have been fried should be kept by itself.

9. Remember that when sheets have worn thin in the middle they should be slit down, hemmed on each slit side,

and have the two outer sides neatly stitched together; thus they will give double wear.

10. Remember that if you pour boiling water into the coffee pot after breakfast, strain it off later, and make the coffee with it next morning, you will have stronger coffee than if made with plain water.

11. Remember that if you buy a good quantity of soap together, cut it in pieces and store it in a dry place free from mice, it will when hard last much longer than if used quite fresh. The same applies to candles.

12. Remember that things bought in ounces cost more than if bought in pounds, besides the waste of time in constant going to and fro for small purchases.

13. Remember that many recipes for using up broken bread will be found in the section on Economical Cookery.

CHAPTER X.

LEGAL NOTES FOR HOUSEWIVES.

IF a servant is engaged without special arrangement to the contrary, as for instance, that a week or fortnight's notice on either side shall conclude the engagement, a month's notice or a month's wages must be given to terminate the engagement.

If a servant be dismissed without notice, he or she cannot claim a month's board wages in addition to the month's wages given in lieu of notice, unless board wages were included in the sum fixed for hire of the servant.

A servant may be dismissed without notice for the following causes :—Incompetence ; disobedience to reasonable orders ; habitual negligence ; immorality in the house ; drunkenness ; dishonesty ; conduct seriously injurious to employer's business ; and complete disablement from illness.

Masters and mistresses are not bound to provide medicine or doctoring for servants, but if they send for the doctor to see a servant they are bound to pay his fee, and cannot legally deduct it from wages. Wages are not due till the date agreed upon. If a servant leaves without notice before the wages are due, he cannot claim them legally. If a servant be justifiably discharged between two pay days, he cannot legally claim any wages.

A master or mistress cannot legally, no matter how careless a servant may have been, deduct from his or her wages the price of broken or injured articles, *unless* an agreement to do so was made beforehand. The only remedy the employer has is an action for damages against the servant ; and it is hardly necessary to point out that such a remedy, in ninety-nine cases out of a hundred, would be infinitely more expensive than the replacing of the broken goods, to say nothing of the trouble and annoyance.

MARKETING TABLE,
WEIGHTS AND MEASURES,
ETC.

MARKETING TABLE.

No.	$\frac{1}{4}$ d.	$\frac{1}{2}$ d.	$\frac{3}{4}$ d.	1d.	2d.	3d.	4d.	5d.	6d.	7d.	8d.	9d.	10d.	11d.	No.
1	s. 0 0 $\frac{1}{4}$	s. 0 $\frac{1}{2}$	s. 0 $\frac{3}{4}$	s. d. 0 1	s. d. 0 2	s. d. 0 3	s. d. 0 4	s. d. 0 5	s. d. 0 6	s. d. 0 7	s. d. 0 8	s. d. 0 9	s. d. 0 10	s. d. 0 11	1
2	0 0 0	0 1 $\frac{1}{2}$	0 1 $\frac{1}{2}$	0 2	0 4	0 6	0 8	0 10	1 0	1 2	1 4	1 6	1 8	1 10	2
3	0 0 0	0 1 $\frac{1}{2}$	0 2 $\frac{1}{4}$	0 3	0 6	0 9	1 0	1 3	1 6	1 9	2 0	2 3	2 6	2 9	3
4	0 1 1	0 2 $\frac{1}{2}$	0 3 $\frac{1}{2}$	0 4	0 8	1 0	1 4	1 8	2 0	2 4	2 8	3 0	3 4	3 8	4
5	0 1 $\frac{1}{2}$	0 3	0 3 $\frac{3}{4}$	0 5	0 10	1 3	1 8	2 1	2 6	3 0	3 4	3 9	4 2	4 7	5
6	0 1 $\frac{1}{2}$	0 3 $\frac{1}{2}$	0 4 $\frac{1}{4}$	0 6	1 0	1 6	2 0	2 6	3 0	3 6	4 0	4 6	5 0	5 6	6
7	0 1 $\frac{1}{2}$	0 3 $\frac{1}{2}$	0 5 $\frac{1}{4}$	0 7	1 2	1 9	2 4	3 0	3 6	4 1	4 8	5 3	5 10	6 5	7
8	0 2 0	0 4	0 6 $\frac{1}{4}$	0 8	1 4	2 0	2 8	3 4	4 0	4 8	5 4	6 0	6 8	7 4	8
9	0 2 $\frac{1}{2}$	0 4 $\frac{1}{2}$	0 6 $\frac{1}{2}$	0 9	1 6	2 3	3 0	3 9	4 6	5 5	6 4	7 3	8 4	9 2	9
10	0 2 $\frac{3}{4}$	0 5	0 7 $\frac{1}{4}$	0 10	1 8	2 6	3 4	4 2	5 0	5 10	6 8	7 6	8 4	9 2	10
11	0 2 $\frac{3}{4}$	0 5 $\frac{1}{2}$	0 8 $\frac{1}{4}$	0 11	1 10	2 9	3 8	4 7	5 6	6 5	7 4	8 3	9 2	10 1	11
12	0 3 0	0 6	0 9 $\frac{1}{4}$	1 0	2 0	3 0	4 0	5 0	6 0	7 0	8 0	9 0	10 0	11 0	12
13	0 3 $\frac{1}{4}$	0 6 $\frac{1}{2}$	0 10 $\frac{1}{4}$	1 1	2 2	3 3	4 4	5 5	6 6	7 7	8 8	9 9	10 10	11 11	13
14	0 3 $\frac{1}{2}$	0 7 $\frac{1}{2}$	0 11 $\frac{1}{4}$	1 2	2 4	3 6	4 8	6 0	7 6	8 9	9 4	10 6	11 8	12 10	14
15	0 3 $\frac{3}{4}$	0 8	0 11 $\frac{3}{4}$	1 3	2 6	3 9	5 0	6 3	8 0	9 4	10 8	11 3	12 6	13 9	15
16	0 4 0	0 8 $\frac{1}{2}$	1 0	1 4	2 8	4 0	5 4	6 8	8 6	9 11	11 4	12 9	14 2	15 8	16
17	0 4 $\frac{1}{4}$	0 9	1 0 $\frac{1}{2}$	1 5	2 10	4 3	5 8	7 1	9 0	10 6	12 0	13 6	15 0	16 6	17
18	0 4 $\frac{1}{2}$	0 9 $\frac{1}{2}$	1 1 $\frac{1}{4}$	1 6	3 0	4 6	6 0	7 11	9 6	11 1	12 8	14 3	15 10	17 5	18
19	0 4 $\frac{3}{4}$	0 9 $\frac{3}{4}$	1 1 $\frac{3}{4}$	1 7	3 2	4 9	6 4	8 4	10 0	11 8	13 4	15 0	16 8	18 4	19
20	0 5 0	0 10	1 1	1 8	3 4	5 0	6 8	8 4	10 0	11 8	13 4	15 0	16 8	18 4	20
21	0 5 $\frac{1}{4}$	0 10 $\frac{1}{2}$	1 1 $\frac{1}{4}$	1 9	3 6	5 3	7 0	8 9	10 6	12 3	14 0	15 9	17 6	19 3	21
22	0 5 $\frac{1}{2}$	0 11	1 1 $\frac{1}{2}$	1 10	3 8	5 6	7 7	9 2	11 0	12 10	14 8	16 6	18 4	20 2	22
23	0 5 $\frac{3}{4}$	0 11 $\frac{1}{2}$	1 1 $\frac{3}{4}$	1 11	3 10	5 9	7 8	9 7	11 6	13 5	15 4	17 3	19 0	21 1	23
24	0 6 0	1 0	1 1	2 0	4 0	6 0	8 0	10 0	12 0	14 0	16 0	18 0	20 0	22 0	24
25	0 6 $\frac{1}{4}$	1 0 $\frac{1}{2}$	1 1 $\frac{1}{4}$	2 1	4 2	6 3	8 4	10 5	12 6	14 7	16 8	18 9	20 10	22 11	25
26	0 6 $\frac{1}{2}$	1 1	1 1 $\frac{1}{2}$	2 2	4 4	6 6	8 8	10 10	13 0	15 2	17 4	19 6	21 8	23 10	26
27	0 6 $\frac{3}{4}$	1 1 $\frac{1}{2}$	1 1 $\frac{3}{4}$	2 3	4 6	6 9	9 0	11 3	13 6	15 9	18 0	20 3	22 6	24 9	27
28	0 7 0	1 1 $\frac{3}{4}$	1 2	2 4	4 8	7 3	9 4	11 8	14 0	16 4	18 8	21 0	23 4	25 8	28
29	0 7 $\frac{1}{4}$	1 1 $\frac{3}{4}$	1 2 $\frac{1}{4}$	2 5	4 10	7 5	9 8	12 1	14 6	16 11	19 4	21 9	23 4	26 7	29
30	0 7 $\frac{1}{2}$	1 1 $\frac{3}{4}$	1 10 $\frac{1}{4}$	2 6	5 0	7 6	10 0	12 6	15 0	17 6	20 0	22 6	25 0	27 6	30

INCOME AND WAGES TABLE.

Per Year.	Per Mth.	Per Wk.	Per Day.	Per Year.	Per Month.	Per Week.	Per Day.	Per Year.	Per Month.	Per Week.	Per Day.
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1 0	1 8	0 4½	0 0¾	8 10	0 14 2	3 3½	0 5½	50 0	4 3 4	0 19 2½	0 2 9
1 10	2 6	0 7	0 1	9 0	0 15 0	3 5½	0 6	60 0	5 0 0	1 3 1	0 3 3½
2 0	3 4	0 9½	0 1½	10 0	0 16 8	3 10½	0 6½	70 0	5 16 8	1 3 1	0 3 10
2 10	4 2	0 11½	0 1½	11 0	0 18 4	4 2½	0 7½	80 0	6 13 4	1 10 9½	0 4 4½
3 0	5 0	0 13	0 2	12 0	1 0 0	4 7½	0 8	90 0	7 10 0	1 14 7½	0 4 11½
3 10	5 10	0 14½	0 2½	13 0	1 1 8	5 0	0 8½	100 0	8 6 8	1 18 5½	0 5 5½
4 0	6 8	1 6½	0 2½	14 0	1 3 4	5 4½	0 9½	200 0	16 13 4	3 16 11	0 10 11½
4 10	7 6	1 8½	0 3	15 0	1 5 0	5 9½	0 10½	300 0	25 0 0	5 15 4½	0 16 5½
5 0	8 4	1 11	0 3½	16 0	1 6 8	6 1½	0 11½	400 0	33 6 8	7 13 10½	1 1 11
5 10	9 2	2 1½	0 4	17 0	1 8 4	6 6½	0 11½	500 0	41 13 4	9 12 3½	1 7 4½
6 0	10 0	2 3½	0 4½	18 0	1 10 0	6 11	0 11½	600 0	50 0 0	11 10 9½	1 12 10½
6 10	10 10	2 6	0 4½	19 0	1 11 8	7 3½	1 0	700 0	58 6 8	13 9 2½	1 18 4½
7 0	11 8	2 8½	0 4½	20 0	1 13 4	7 8½	1 1	800 0	66 13 4	15 7 8½	2 3 10
7 10	12 6	2 10½	0 5	30 0	2 10 0	11 6½	1 1½	900 0	75 0 0	17 6 1½	2 9 3½
8 0	13 4	3 1	0 5½	40 0	3 6 8	15 4½	2 2½	1000 0	83 6 8	19 4 7½	2 14 9½

If the wages be guineas, add 1d. per month, or ½d. per week for each guinea.

TABLE OF DISCOUNTS.

Per Cent.	In the £.	Per Cent.	In the £.	Per Cent.	In the £.	Per Cent.	In the £.
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
2½	0 6	5	1 0	17½	3 6	25	5 0
3	0 7½	6	1 2½	20	4 0	30	6 0
4	0 9½	7½	1 6	22½	4 6	35	7 0

COIN OF FOREIGN COUNTRIES,

With approximate value in English Money.

AMERICA—Dollar (S)=100 Cents (C)	...	...	...	£	0	4	1
AUSTRIA—Florin (S)=100 Kreuzers	...	...	...	...	0	1	7
10 Kreuzers (C)	...	...	...	...	0	0	2
CHINA—Tael of Silver (S)	...	...	...	...	0	4	6
Dollar	...	...	...	...	0	3	1
DENMARK—Frederick d'or (G)	...	...	...	...	0	16	3
Kronor (S)=100 öre (C)	...	...	...	...	0	1	0½
FRANCE, BELGIUM, ITALY, AND SWITZERLAND—							
Napoleon (G)=20 francs	...	...	...	...	0	15	10
Franc (S)=100 cents	...	...	...	...	0	0	9½
5 Centimes (C)=1 sou	...	...	...	...	0	0	0½
GERMAN EMPIRE—20 Marks (G)	...	...	...	...	0	19	6
Mark (S)=100 Pfennige	...	...	...	...	0	0	11¾
GREECE—20 Drachma (G)	...	...	...	...	0	14	2
Drachma (S)=100 Leptas	...	...	...	...	0	0	8½
HOLLAND—Ducat (G)	...	...	...	...	0	9	5
Gulden (S)=100 cents (C)	...	...	...	...	0	1	8
INDIA—Mohur (G)=15 Rupees	...	...	...	...	1	10	0
Rupee (S)=16 Annas (C)	...	...	...	...	0	1	5
Anna (C)=12 Pies	...	...	...	...	0	0	1½
JAPAN—Yen (S)=100 Sen	...	...	...	...	0	3	6
Sen (C)=10 Rin	...	...	...	...	0	0	0½
NORWAY AND SWEDEN—Kroner (S)=100 öre (C)	...	...	...	...	0	1	1
PORTUGAL—Milreis (S)=1000 Reis	...	...	...	...	0	4	2
RUSSIA—Imperial (G)	...	...	...	...	0	16	3
Rouble (S)=100 Copecks (C)	...	...	...	...	0	3	1½
SPAIN—5 Dollar (G)	...	...	...	...	1	0	6½
Dollar (S)=20 Reals (C)	...	...	...	...	0	3	10
Peseto (S) (100 Centavos)	...	...	...	...	0	0	9
TURKEY—Medjidiè (G)=100 Piastres	...	...	...	...	0	18	0
Piastre=40 Paras	...	...	...	...	0	0	2

EXCHANGE VALUE OF FOREIGN MONEY.

Subject to fluctuation according to the rate of Exchange.

	English.		American.	French.	German.	Austrian.	Italian.
	s.	d.	D. C.	F. C.	M. P.	F. K.	L. C.
Sovereign	...	20 0	4 88	25 22	20 35	11 50	25 50
Shilling ...	...	1 0	0 24	1 25	1 0	0 60	1 27
20 franc piece	...	15 10	3 85	20 0	16 13	9 10	20 0
Franc ...	...	0 9½	0 19	1 0	0 80	0 46	1 0
20 mark piece	...	19 6	4 74	24 70	20 0	11 20	24 85
Thaler ...	...	2 11	0 70	3 65	3 0	1 68	3 75
Mark ...	...	0 11¾	0 24	1 22	1 0	0 56	1 26
Imperial (Russian)	15 10		3 85	20 0	16 13	9 35	20 0
20 Kroner piece ...	21 9		5 25	27 40	22 20	12 46	27 74
Kroner ...	1 1		0 27	1 30	1 13	0 62	1 40
Dollar (American)	4 1		1 0	5 10	4 10	2 35	5 20
Dollar (Spanish)	3 11		0 94	4 95	3 98	2 25	5 10

WEIGHTS AND MEASURES.

MEASURES OF CAPACITY.

1	Minim	...	...	...	=	1	Drop
1	Drachm	...	...	...	,	1	Tea-spoonful
2	Drachms	...	...	...	,	1	Dessert-spoonful
4	Drachms	...	...	...	,	1	Table-spoonful
60	Minims	...	...	...	,	1	Drachm
8	Drachms	...	...	...	,	1	Ounce
20	Ounces	...	...	...	,	1	Pint
4	Gills*	...	...	...	,	1	Pint (34.659 cubic inches)
2	Pints	...	...	...	,	1	Quart
2	Quarts	...	...	...	,	1	Pottle
4	Quarts	...	...	...	,	1	Gallon (277.274 cubic inches)
2	Gallons	...	...	...	,	1	Peck
4	Pecks	...	...	...	,	1	Bushel (1.2837 cubic feet)
2	Bushels	...	...	...	,	1	Strike
3	Bushels	...	...	...	,	1	Sack
4	Bushels	...	...	...	,	1	Coomb
8	Bushels	...	...	...	,	1	Quarter
12	Sacks	...	...	...	,	1	Chaldron
5	Quarters	...	...	...	,	1	Wey or Load (51.347 cub. ft.)
10	Quarters	...	...	...	,	1	Last

An imperial Gallon of distilled water weighs 10 lbs. Avoirdupois.

* In the North of England half a pint is called a gill, and the true gill, a "noggin."

WINE AND BEER MEASURES.

9	Gallons	...	...	=	1	Firkin (1.444 cubic feet)
18	Gallons	...	...	,	1	Kilderkin
36	Gallons	...	...	,	1	Barrel or Tierce
54	Gallons	...	...	,	1	Hogshead
2	Hogsheads	...	...	,	1	Butt, Pipe, or Puncheon
2	Butts	...	...	,	1	Tun (216 gallons)
	Hogshead of Wine	...	...	,	Half a	pipe or butt (about 26 dozen)
	Quarter cask do.	...	...	,	$\frac{1}{4}$	pipe or butt (about 13 dozen)
	Octave of Wine	...	...	,	$\frac{1}{8}$	of a pipe or butt
	Port, pipe of	...	...	,	115	gallons (52 dozen)
	Sherry, butt of	...	...	,	108	gallons (57 dozen)
	Hogshead of beer	...	...	,	54	gallons
	„ brandy	...	...	,	60	gallons
	„ French wine	...	...	,	43 to 46	gallons
	„ rum	...	...	,	45 to 50	gallons
	„ sugar	...	...	,	13 to 16	cwt.

AVOIRDUPOIS WEIGHT.

16 Drams	...	...	...	...	= 1 Ounce (437½ grs.)*
16 Ounces	...	...	...	...	,, 1 Pound (lb.) (7000 grs.)
14 Pounds	...	...	...	...	,, 1 Stone
28 Pounds	...	...	...	...	,, 1 Quarter
112 Pounds	...	...	...	...	,, 1 Hundredweight (cwt.)
20 Hundredweights	..	..	..	..	,, 1 Ton

* A grain is the same in all weights.

TROY WEIGHT. (Seldom used except by assayers.)

4 Grains	...	...	...	...	= 1 Carat†
24 Grains	...	...	...	...	,, 1 Pennyweight (dwt.)
20 Pennyweights	...	...	...	...	,, 1 Ounce (480 grains)
12 Ounces	...	...	...	...	,, 1 Pound (5760 grains)

The standard for gold coin is 22 carats fine gold and 2 carats alloy; for silver, 11 ozs. 2 dwts. silver and 18 dwts. alloy.

† The diamond carat weighs 3.17 grains.

APOTHECARIES' WEIGHT.

20 Grains	...	...	...	...	= 1 Scruple
3 Scruples	...	...	...	...	,, 1 Drachm
8 Drachms	...	...	...	...	,, 1 Ounce
12 Ounces	...	...	...	...	,, 1 Pound

MEASURES OF LENGTH.

3 Barleycorns	...	...	...	...	= 1 Inch (obsolete)
12 Lines	...	...	...	...	,, 1 Inch
2¼ Inches	...	...	...	...	,, 1 Nail
3 Inches	...	...	...	...	,, 1 Palm
4 Inches	...	...	...	...	,, 1 Hand
9 Inches	...	...	...	...	,, 1 Span
12 Inches	...	...	...	...	,, 1 Foot
18 Inches	...	...	...	...	,, 1 Cubit
3 Feet	...	...	...	...	,, 1 Yard (36 inches)
5 Feet	...	...	...	...	,, 1 Pace*
6 Feet	...	...	...	...	,, 1 Fathom
5½ Yards	...	...	...	...	,, 1 Rod, pole, or perch
4 Poles (100 lks.)	...	...	...	...	,, 1 Chain (66 feet)
10 Chains (40 pls.)	...	...	...	...	,, 1 Furlong
8 Furlongs	...	...	...	...	,, 1 Mile (1760 yards)†
3 Miles	...	...	...	...	,, 1 League
1.15 Miles	...	...	...	...	,, 1 Knot‡ or Nautical mile
69½ Miles	...	...	...	...	,, 1 Geographical degree

* A military pace is 2½ feet; an itinerary pace, 5 feet.

† The old Irish mile was 2240 yards, and the Scotch 1977 yards.

‡ The Admiralty knot is 6080 feet.

CUBIC MEASURE.

1728 Cubic Inches	...	...	= 1 Cubic Foot
27 Cubic Feet	...	...	„ 1 Cubic Yard (1 Load of Earth)
40 Cubic Feet unhewn timber,	or 50 squared	= 1 Ton or Load	
108 Feet	...	...	= 1 Stack
600 Square feet 1 in. plank,	400 1½ in., or 300 2 in.	= 1 Load	

SQUARE AND LAND MEASURE.

144 Square Inches	...	...	= 1 Square Foot
9 Square Feet	...	...	„ 1 Square Yard
30½ Square Yards	...	...	„ 1 Square Rod
16 Poles	...	...	„ 1 Chain
40 Poles	...	...	„ 1 Rood
4 Roods	...	...	„ 1 Acre (4840 Square Yards)
640 Acres	...	...	„ 1 Square Mile

FRENCH WEIGHTS AND MEASURES.

1 Gramme	...	...	= 15.43 grains
1 Kilogramme	...	...	„ 2 lbs. 3¼ oz.
1 Ounce Troy	...	...	„ 31.1 grammes
1 Ounce Avoir	...	...	„ 28½ grammes
1 Pound	...	...	„ 453½ grammes
1 Ton	...	...	„ 1016 kilogrammes
1 Metre	...	...	„ 39⅔ inches
1 Kilometre	...	...	„ 1093⅔ yards
1 Yard	...	...	„ 91½ centimetres
1 Litre	...	...	„ 1¾ pints
1 Pint	...	...	„ 56⅔ centilitres
1 Gallon	...	...	„ 4.54 litres
1 Franc per Kilogramme	...	...	„ 4⅓d. per lb. or 40s. 7⅔d. per cwt.
1s. per lb.	...	...	„ 2 francs 76 cents per kilogramme
1 Franc per Metre	...	...	„ 8⅓d. per yard
1s. per Yard	...	...	„ 1 franc 37 cents per metre
1 Franc per Litre	...	...	„ 3s. 7⅔d. per gallon
1s. per Gallon	...	...	„ 27½ cents per litre
1 Franc per Aune	...	...	„ 7⅔d. per yard

GEOMETRICAL MEASURES.

60 Seconds	...	= 1 Minute	30 Degrees	...	= 1 Sign
60 Minutes	...	„ 1 Degree	90 Degrees	...	„ 1 Quadrant
			360 Degrees	...	= 1 Circle.

AVERAGE WEIGHTS.

1 Peck of Potatoes	...	...	...	...	...	20 lbs.
„ Broad Beans	...	...	...	...	...	9 „
„ Kidney Beans	...	...	...	...	...	10 „
„ Green Peas	...	...	...	...	...	8 „
„ Apples, Gooseberries, Onions, and White Turnips	...	...	...	...	...	16 „
„ Pears, Plums, Damsons, and Stone Fruit	...	...	...	...	...	18 „

MISCELLANEOUS.

Bread, quartern loaf	...	...	...	...	= 4 lbs.
Bricks, load of	...	...	...	...	500
Butter, firkin of	...	...	...	...	56 lbs.
Coals, sack, 2 cwt.; small do., 1 cwt.					
Coke, sack=4 bushels					
„ chaldron=12 sacks					
Flour, barrel, 196 lbs.; sack, 280 lbs.; peck, 14 lbs. 7 oz.; bushel,					57 lbs. 12 oz.
Hay, old, load	= 36 trusses (18 cwt.)				
„ „ truss	„ 56 lbs.				
„ new, load	„ 36 trusses (19 cwt. 32 lbs.)				
„ „ truss	„ 60 lbs.				
Hops, pocket of	= 1½ to 2 cwt.				
Paper, quire	= 24 sheets				
„ ream	„ 20 quires				
Parchment, roll of	= 60 skins				
Potatoes, sack of	= 168 lbs.				
Raisins, box of	= 56 lbs.				
Straw, load	= 36 trusses (11 cwt. 64 lbs.)				
„ truss of	= 36 lbs.				
Tea, chest of, Congou	= 80 to 100 lbs.				
„ „ Hyson	= 60 to 80 lbs.				



Economical Cookery.



CHAPTER I.

INTRODUCTORY NOTE.

THE object of the following pages is to show that a number of various kinds of dishes, from soups and sauces down to savouries and sweets, many of them quite elegant enough for a dinner-party, and all of them appetising, may be prepared at very small cost, and in most cases without much trouble.

In the generality of cookery books economy is not the guiding principle. Meat for stock, butter, cream, eggs, etc., for sauces, sweets, and pastry are prescribed *ad libitum* (and unfortunately in some cases *ad nauseum* also), so that people whose incomes are strictly limited cannot possibly afford to attempt culinary operations involving an outlay so extravagant, and in consequence are in many cases driven to fall back upon a monotonous and limited bill of fare, injurious alike to appetite and digestion. There is no reason why people with small means should be condemned to uninteresting dinners of one plain dish.

The essence of true economy is the extraction of the greatest amount of comfort and pleasure out of everything we use, and many housewives who think they are very economical because they restrict their families to a dinner

of beef-steak or boiled mutton, with nothing before or after it, would in reality spend as little, as far as money goes, but would increase immensely the comfort and enjoyment—and also the health—of themselves and their families, if they took the trifling extra trouble of providing an economical soup to precede the meat (or whatever other dish forms the dinner), and a pudding or sweet of some kind to follow it. They would not spend more, because there would not be so much meat required if it did not form the entire dinner. Nothing is so extravagant as to dine entirely off meat, and nothing is worse for the digestion.

Soup of some kind or other should be served at every day's dinner, both for health and economy's sake. There is nothing more trying to the digestion of a tired and hungry man or woman than to sit down to a plate of meat and vegetables; but if a plate of soup be served first the stomach is prepared for the assimilation of the heavier food that follows it. Soup, it has been truly said, "wakes the stomach up to its work," and therefore, particularly in the case of people fatigued from work or exercise, the digestion is in a better state to perform its function properly. Soup, too, is very quickly absorbed—liquids are much more quickly absorbed than solids—therefore, when people are fatigued and exhausted, they are more quickly revived by a plate of soup than by one of solid food. Digestion is a physical as well as a chemical process, and requires a certain amount of physical vigour for its performance; it is for this reason that solid food, if taken into the stomach of an exhausted person, so frequently causes indigestion or illness. It is very important, therefore, that inexperienced housekeepers should not run away with the idea that soup-making is a troublesome and expensive process requiring skill and outlay beyond their means. It is not at all necessary that it should be so, as a glance at most of the recipes given in these pages for soups will show. So far from being an extravagance, the use of soup is an economy, because in making it all sorts of odds and ends can be used up which would otherwise be thrown away.

A writer in a well-known cookery book says, "Probably the contents of the dust-bins of England would more than fill the soup tureens of France;" and the statement, although

not one that is very savoury, is no doubt quite true, because in England soup—that is, economical soup made from simple things—is often absolutely despised. Many cooks scorn soup made without the aid of “gravy beef,” “stock meat,” and such-like expensive items; but their scorn is merely the result of ignorance. Soup that is pleasing to the palate and nourishing to the body can be made without buying an ounce of meat especially for the purpose.

1. It can be made from the water in which a joint, or fowl, or some kinds of fish has been boiled.

2. It can be made from stock made of waste scraps, bones, etc.

3. It can be made from vegetables.

Recipes for these will be found in the chapter on Soups.

In like manner, puddings and savouries can often be made with very little cost, and with the definite advantage that in making them such things as bread scraps and dripping, often thrown away, may be used up. In families where there are children a pudding should be served every day; it is an excellent kind of nourishment, and at every table it will be found more economical and more generally acceptable to reduce the expenditure on meat, and supply some sweet or savoury dish to conclude the family dinner; and in doing this there is no need to fear that the body will thereby be defrauded of its proper nourishment. It would indeed be what has been well called an “unthrifty thrift” to attempt to economise by substituting poor food for that which is more nourishing but dearer. That would be the falsest kind of economy; but to introduce variety of equally nutritious substances into a monotonous meat dietary does not do this, very far from it. The popular superstition (it really must be called so) that meat every day is absolutely essential is productive of much unnecessary expenditure by people who can ill afford it. That meat every day is quite unnecessary for health is the teaching of the best experts in dietetics.

Sir H. Thompson says: “There is no doubt that the obvious and admitted value of a highly nitrogenised food, of which meat is a concentrated form, to the labouring man has occasioned the almost universal belief that meat is the most desirable staple for all. ‘If you wish to be strong, eat plenty of meat.’ ‘If you are feeling weak, eat more

meat, and at every meal.' Such are the well-known articles of a creed which is deeply graven in the popular mind. Nevertheless, few statements relating to diet can be more misleading, and this is one which gives rise to much serious ill health. . . . The one idea which the working classes possess in relation to improvement in diet, and which they invariably realise when wages are high, is an abundant supply of butcher's meat. To make this the chief element of at least three meals a day, and to despise bread and vegetables, is for them no less a sign of taste than a declaration of belief in the perfection of such food for the purpose of nutrition."

The belief, like all erroneous ones, is merely the outcome of want of knowledge. If people knew the simple scientific fact that *proteid* (i.e., flesh-forming) material exists in numbers of other things as well as in meat, they would not be possessed by the obstinate belief that they are bound to pine and perish if not constantly supplied with animal food. As a matter of fact, proteid matter is found in a vast number of food articles besides in the flesh of animals. Milk, eggs, cheese, oatmeal, semolina, macaroni, bread, etc., etc., are extremely rich in it.

Speaking of macaroni, Sir H. Thompson says: "Macaroni is, in fact, an aliment of very high nutritious power—being formed chiefly of the gluten, the most valuable part of the wheat from which the starch has been removed. Weight for weight, it may be regarded as not less valuable for flesh-making purposes in the animal economy than beef or mutton." Lentils and semolina are also very rich in this substance. Lentils rank extremely high as a nutritious food, so does semolina, which, like macaroni, is formed of the gluten of wheat. Sir William Roberts, F.R.S., writes: "The proteid of wheat is not quite identical with that of oats or barley. . . . Taking the lentil as the type of the leguminous group, it is to be observed that lentil flour contains twice as much proteid matter as wheat or oat flour, and almost twice as much lime." Hence the value of lentil soups, stews, etc.

With regard to the subject under our special consideration—economy—the authority just quoted says: "Lean beef contains, roughly speaking, twice as much proteid matter as wheat flour, but beef is about four times as dear as

flour, so that you may estimate that proteids of animal source are about twice as costly as proteids of vegetable source."

It is to be feared that sometimes the continual use of meat as the principal or only dish at dinner proceeds simply from the laziness of the manager of the household. Although the preparation of simple soups, sweets, and so on, does not require any great amount of skill or exertion, still it does need a little care and some forethought, and it is probably this latter necessity more than anything else which makes many a woman shirk their use, for if there is one thing abhorred by some women more than anything else it is the trouble of thinking. To think out the judicious expenditure of a little money in providing an appetising and interesting little dinner is an effort to which they *will not* rise. No, it is far easier, as the dinner-hour approaches, to "send running" for a beef-steak, or failing that, for the digestible delicacy a pork chop, to take the pan, its surface already prepared with the congealed grease of yesterday's cooking (of course it is not worth the trouble of cleaning it off when it has to be used again next day!), put the meat on it, place it on the fire, and leave it to fry while the cloth is being laid. The whole process, marketing, cooking, and table-laying, if you have shops "round the corner," need occupy less than half-an-hour, leaving the morning therefore free for novel-reading, pleasant gossip, and a nice late breakfast, for with such a *régime* there is of course no need for early rising.

If people have only themselves to consider it is of course entirely a matter for individual taste whether they keep house in this way or not. Every one ought to be at perfect liberty to live on fried leather if they choose to do so, but when a woman is in the responsible position of mistress of a family it is quite another thing. If her husband is a hard-working professional or business man, or otherwise engaged earning the income that supports the house, it is simply her duty (and it is morally criminal to evade it) to spend the money he earns to the best, and not to the worst, advantage, for his health, comfort, and happiness; and as she participates in the advantage too, this is no great hardship. If she has children the responsibility is of

course doubled, for nothing is more injurious to children, as far as their bodily constitutions go, than bad and innutritious feeding; it permanently injures the foundations of the human fabric, which during childhood is in a state of rapid growth, and mischief done then for want of good food bears traces that in most cases remain all through after-life.

Our object is to show that economy need not wear a sordid aspect if people with small means will take the trouble to prevent its doing so. This is especially true with regard to cookery, as I think the recipes here gathered together will show.

CHAPTER II.

METHODS OF KITCHEN ECONOMY WHICH EVERY
COOK SHOULD UNDERSTAND.

Economy of Fuel.—There are many ways in which the consumption of fuel may be lessened without resorting to the “thriftless thrift” of spoiling the articles cooked by using too little firing to cook them properly. First of all must be borne in mind the fact that *soot is a non-conductor of heat*, therefore all cooking utensils coated on the outside with a layer of soot will need a larger fire for the cooking of the contents within them than if they were quite clean. If the sides and flues of kitchen ranges are not kept thoroughly well brushed soot will coat and cake upon their sides, and in consequence a much bigger fire will be needed for heating the oven and for making the water in the boiler hot. We know, perhaps, the old saying, “A dirty grate makes dinner late,” and one can understand why it does so when we know that soot acts as a preventive of heat entering metal. A fruitful cause of the upstairs bath water, in houses where there is a hot and cold supply, being oftener cold than hot is the neglect of thoroughly cleaning the flues. (The neglect of drawing out the damper of the special flue leading to the bath pipes is of course another reason why baths are often cold when they are required to be hot.)

A vast deal of good fuel is thrown away in nearly every house in the shape of what careless servants call *ashes*. Now *ashes* and *cinders* are two very different things. Ashes have their use, but it is not in the fire-grate. They may be substituted for sand for scouring pots; they are very useful for fowl runs, but they are of no use for fuel. *Cinders*, on the other hand, make excellent fuel. For broiling, cinders added to coal make a capital clear fire; and for stewing, which demands a slow fire, a fire plenti-

fully fed with cinders instead of coal is much the best. If the servants can be induced to use it regularly, a "cinder sifter"—*i.e.*, a sort of wooden box on rockers with a wire tray and a closely fitting lid—will soon repay its cost. It is the only satisfactory method by which cinders can be separated from ashes without causing dirt and dust to fly about.

The use of a gas "ring," or a small oil stove, will also save fuel immensely, as in warm weather the kitchen fire can be allowed to go out on days when boiling, steaming, stewing, or frying are the means employed for cooking, as all these operations for a small family can be conducted on these simple little contrivances.

A "Dutch oven," which can be purchased from tenpence upwards, is an invaluable thing for saving fuel. It can hang in front of any open fire, and if the fire in the range is low, small cooking can be done before it in the Dutch oven without necessitating the making of a large fire for the heating of the range oven. In it meat and fish can be cooked, puddings of custard, rice, etc., baked, and I have heard that even *bread* has been baked in one of these useful appliances. This was done by a lady who was teaching cookery in a cottage in which a small open fire-place was the only means for cooking anything. The tin Dutch oven was propped on bricks before the fire, and the bread put into it, and although the shape of the loaf was not quite of the orthodox pattern, it was said to "eat" extremely well. The teacher from whom I had this information also told me that she had done a whole afternoon's ironing with irons heated on a fire whose chief fuel consisted of *dried potato parings*! Although in most close ranges *coke* cannot be burnt, it is very useful for saving coal in open fires. It ought to be purchased *broken small*. Little pieces of coke mixed with the coal effect a great saving, make a clear, hot fire, and give off but little of the unpleasant fumes which make coke fires so disagreeable.

The *dust*, or very fine coal with which all lump coal is accompanied (especially cheap coal), should be particularly looked after. Some servants will not take the trouble of using it, but go on burning up the lumps, and then suddenly announce that "the coal is out," when perhaps it is impos-

sible to get more delivered immediately. Now if the simple plan was adopted of burning up the dust *with* the lumps it would never accumulate. Of course a fire cannot be lighted with dust or very small coal, but once it is red and bright, a little dust coal added from time to time keeps it going and saves the lumps; and if the fire in any room which is going to be unoccupied for some hours, as the dining-room from breakfast to luncheon, is banked up with dust coal that has been damped, it will "keep in" for two or three hours, and then with lumps and poking will make a good fire. In nurseries or bedrooms, when the fire needs to be kept in all night, damped dust may be usefully used up. Fire-bricks should be put into all wide, deep grates; they greatly save the consumption of coal. A fire-brick laid on the top of a fire saves coal, as it causes the fire to burn slowly, it gets nearly red hot, and then gives out heat. Fire-bricks can be bought for one penny each at most oil shops. All who can afford to fill up their cellars should do so in July or August; coal can be had then at a reduction of several shillings a ton, and it does not spoil by keeping.

The method by which food is cooked is also an important point for those who would study economy. Roasting at an open fire, for instance, is the most extravagant of all methods of cooking, though undoubtedly it produces excellent results as far as the palatability of the article cooked is concerned; but it is an extravagant method of cooking for two reasons—first, it necessitates a very large clear fire; second, on account of the waste of meat that occurs in roasting. The following Table gives the average waste that occurs in roasting, boiling, and baking:—

				Boiling. Per Cent.	Baking. Per Cent.	Roasting. Per Cent.
Beef, generally	...	...	...	20	29	31
Mutton, do.	...	...	...	20	31	35
Legs of Mutton	...	...	...	20	32	33
Shoulders of Mutton	...	...	...	24	32	34
Loins of Mutton	...	...	...	30	33	36
Necks of Mutton	...	...	...	25	32	34
Average of all	...	...	...	23	31	34

"American pork loses 50 per cent. of its weight in boiling, whereas the pork of Denmark, Holstein, England, and Ireland only loses from 25 to 30 per cent."—A. Wynter-Blyth's *Dictionary of Hygiene*.

From above Table it will be seen that boiling is a much more economical way of cooking meat than roasting or baking. Boiling also makes meat more digestible than baking or roasting, and the following explanation of the reason for this, from Mr. A. Wynter-Blyth's *Dictionary of Hygiene*, is interesting:—"Roasted meats are not generally so digestible as meats which have been boiled, and many stomachs which can tolerate poultry, meat, fish, and puddings boiled, find that roasted meat, etc., and baked puddings cause great discomfort. This may be explained by the fact that during the process of roasting much of the superficial fat, from prolonged exposure to heat, undergoes decomposition, attended with the production of fatty acids, and an acid volatile product known as acroleine, which may seriously disturb sensitive stomachs. These remarks apply also to *broiling*, *frying*, and *baking*, and more especially to the latter, for the operation being carried on in a confined space, the volatile fatty acids generated are prevented from escaping, and thus permeate the cooked articles."

New Zealand or any mutton that has been long killed is not so suitable for boiling as that which is fresh, because it turns a dark colour; and New Zealand mutton, having but little fat, is not so good for boiling as freshly killed English meat. There is nothing so suitable for boiling as a large fat leg of South Down mutton. Of all ways of cooking meat, however, the most economical is *stewing* in a stew-pan or earthenware cooking pot * with a *well-fitting lid*. It is economical in three ways—*first*, in *fuel*, because stewing is essentially a *slow* process,† and therefore needs a slow or very small fire (a fire fed with cinders makes the best fire for stewing), or the stew-pan may be placed on the simmerer of a gas stove, and a glimmer of gas will suffice to keep it at a very gentle simmer. *Secondly*, it is economical, because all kinds of things can be made into a savoury stew, which,

* These, which originally were principally used in France, can now be bought at most large crockery or furnishing stores.

† Remember the maxim, "A stew boiled is a stew spoiled."

cooked in any other way, would be almost uneatable. An ancient fowl, for instance, stewed by the simple calculation of an hour for every year of its age, may be turned into an appetising and savoury dish, whereas if boiled or roasted it would bring disgrace on the household manager who permitted it to be served at her table. *Thirdly*, in stewing, every particle of nutriment (a certain proportion of which, according to Professor Letheby's table, is evaporated in roasting, baking, and passes into the water in boiling) is preserved, for though extracted from the meat it is preserved in the gravy and vegetables. Then again, scrap pieces of various kinds of meat, poultry, etc., too small for boiling or roasting, may, when stewed together with scraps of vegetables, be converted into an excellent dish.

Stewing has also one other important advantage for busy housewives. It is the simplest and least troublesome of all methods of cooking, and therefore saves the most time, as it does not need much attention. Basting is needed in roasting and baking; skimming in boiling; in both the fire needs much attention. In stewing, if the "cooking pot" closely shut be put in a moderate oven, or the stew-pan on the hob, or the stew be placed in a jar standing in a saucepan of boiling water on a very slow fire, or on the lowered flame of a gas or oil stove, it will cook gently for hours—the longer the better—without needing any attention. A little care must be taken of course to see that the stew does not stick to the bottom of the pot and burn, if the stewing be done in a saucepan or in a jar.

STOCK-MAKING.

No kitchen can be economically managed without a *stock-pot*. Stock is the basis of meat soups, meat sauces, and gravies. A stock-pot may be either one of those specially made for the purpose, and provided with a strainer and tap for drawing off the stock (they can be purchased from about 10s. 6d. upwards), or a common iron pot may be used for the purpose, provided it be furnished with a closely-fitting lid; it answers best if well tinned inside.

In expensive high-class cookery stock is made from materials bought specially for the purpose—shin of beef,

ham, knuckle of veal, fowl (the two last for white stock), etc., but for ordinary economical family use no such extravagance must be thought of. Stock quite good enough for everyday use can be made from what many people throw away—all the bones of cooked or uncooked meat, poultry and game, bacon rinds, skin, gristle, and in fact every kind of remnant of this sort should be at once put into the stock-pot; but before putting them in *see that the bones are cracked up as much as possible*, because if they be well broken up all the marrow in the middle and the gelatine in the bone itself will be boiled out, or extracted into the water in which they are cooked, whereas if they were put in whole half the goodness would remain in them. If but few joints are used in the house it is good economy to purchase a few pennyworth of bones from the butcher every week from which to make stock. This is no extravagance, for all the odds and ends of food with these bones, say 4d. or 6d. worth, will provide soup for the week. Every butcher will sell fresh bones and will crack them if he be asked to do so, or they may be smashed with a heavy hammer. A quart of water to two pounds of fresh bones is about the proper allowance.

It is always important to carefully inspect all bones and remnants before putting them into the stock-pot, as if one should be musty or tainted it would cause all the stock to be wasted. Uncooked bacon rind should be scraped well for fear of its being rusty. The water in which meat, fowl, rabbits, calf's head, and white fish have been boiled should always be carefully saved, as this water makes excellent soup, or may be added to the stock-pot; but of course common sense points out that the water in which fish was boiled should be kept for *fish soup*, and not put into the ordinary stock-pot. The water in which fowl or veal have been boiled may be kept by itself for *white stock*, and from it many kinds of inexpensive *white soups* may be made. The water in which haricot or kidney beans, celery, artichokes, etc., have been boiled makes good vegetable soup.

It is better not to put vegetables into the stock-pot unless the stock is going to be used the same or the next day, because they are apt to turn the stock sour; but they are valuable additions to stock, and every vegetable scrap should

be saved and boiled in a little of the stock, or water, by itself, to add to the soup. It is also better not to add vegetables on account of the flavour which they give to the entire contents of the stock-pot, preventing thereby the use of the stock for several differently flavoured soups and sauces. Stock is much more useful if kept quite unflavoured. Cold water should be poured on the bones and scraps, one quart to about two pounds of *bare* bones, but if meaty bones or pieces of meat are used more water may be allowed. This should *simmer* for several hours, in fact it may be on the fire, if it is a slow one, whenever it is not otherwise in use, all day. *The lid must be kept closely on all the time, and the stock must not boil fast.* If the pot is not covered much of the goodness escapes with the steam, and if it boils fast it will quickly waste away. Every night the liquor should be poured from the pot into an earthenware pan, because if allowed to remain in the pot all night it will most likely turn sour. The bones should be placed in another pan and covered, for further boiling next day with the stock; but if all the goodness has been extracted from them, and they are quite light and broken up, they may be thrown away.* In the morning the stock will be found coated with fat; if the stock is to be returned to the pot for further boiling, the fat should be all carefully removed before doing so (it can be clarified for use as directed below), but if the stock is sufficiently done, and is not required for immediate use, the cake of fat should not be disturbed, as the stock while coated with it will keep better than without it. In cold weather, in a cold dry larder, stock covered with a thick layer of fat will keep good for a fortnight. *In hot weather all stocks, soups, and gravies should be boiled up briskly for a few minutes every day*, if it is necessary to keep them; without this they will turn sour or taint, particularly if they contain vegetable matter.

CLARIFYING DRIPPING AND FAT.

No morsel of *any* kind of fat should ever be wasted

* Bones crushed small and buried in the ground of a garden help to fertilise the earth. Burnt bones make a valuable manure, but bone burning makes a horrible smell.

or thrown down the kitchen sink,* for even if it be burnt, blackened, or otherwise uneatable, it can be utilised by rubbing it on the wood and paper which is to light the kitchen fire, thereby expediting the process.

Beef fat and dripping if properly clarified is very nearly as good as butter for making pastry; *but it must be properly clarified*. To do this proceed as follows, taking care to keep it quite unmixed with any other kind of fat:—

Break up the dripping quite small, put it into a large basin and pour a kettleful of absolutely boiling water over it. Let it stand till quite cold, cut the cake of fat as complete as possible out of the basin, scrape the dark under part off, empty the water out of the basin and wash it, break up the fat again in it, pour another kettleful of boiling water over it, repeat the first process, and then do exactly the same thing *a third time*. Perfectly pure and clear beef dripping will be the result. For ordinary purposes one clarifying process may be sufficient, but for making really good pastry three are essential.

Waste scraps of fat from plates, cold bacon fat, the skimming from the stock-pot, waste from frying-pans, etc., may all be turned into good fat for frying and general purposes by the following method:—Put them into a saucepan with enough water to cover them, and let the water simmer, taking care to stir now and then, so that the fat may not burn. In an hour or two the water will have evaporated, then pour the fat through a piece of muslin or hair sieve into a basin. Even if the fat has been used for frying bread-crumbed cutlets or fish, the crumbs will be cleared away by this process.

Another Method.

Fat that has been used for frying articles which have been dipped in bread crumbs may be clarified and rendered fit for frying again by pouring it into a basin containing boiling water, stirring it up well and letting it settle. The crumbs will sink, and the clean fat can be skimmed off.

Fat that has been used for frying fish should be kept in a special jar; it can be used over and over again for

* The habit of washing grease down the sink frequently leads to clogged drain-pipes from the fat congealing in the pipes.

the same purpose, but if mixed up with other fat it will render it unsuited for anything but frying fish.

As to the value of clarified beef dripping for frying, and the mistake of allowing it to be a "perquisite," the following quotation from Sir Henry Thompson's *Food and Feeding* is worth giving:—"For frying, nothing perhaps is better than well clarified beef dripping, such as is produced, often abundantly, in every English kitchen; but the time-honoured traditions of our perquisite system enables any English cook to sell this for herself at small price to a little trader round the corner, while she buys, at her employer's cost, a quantity of pork lard for frying material at double the price obtained for the dripping. Lard is, moreover, the worst menstruum for the purpose, the most difficult to work in so as to free the matters fried in it from grease; and we might be glad to buy back our own dripping from the aforesaid little trader at a profit to him of cent. per cent., if only the purchase could be diplomatically negotiated. But so sweet is acquisition by way of perquisite, that none of the present race of cooks appear disposed to part with this particular one for any consideration which can be offered. They are doubtless after their own fashion true to their order, and regard in the light of sacrilege any interference with their principles and tradition." This may be all very well for Sir Henry's cooks, but in the kitchen presided over by a housewife who is managing a small income such things as perquisites must be unknown, especially as far as fat and bones are concerned. They are important items in kitchen economy, and must be turned to account just as much as the other food stuffs.

SAVING OF WASTE IN BROKEN BREAD.

Some notable housewives make the ignominious confession that in the matter of using up their broken bread they are, in schoolboy slang, fairly "stumped"; how to get rid of it they do not know. Of course, thrifty people say, "Don't have any waste or broken bread; insist on every piece being eaten before a fresh loaf is cut." This advice, excellent in theory, is, like much of the same

kind, often unworkable in practice. Husbands and sons will rebel at the sight of hard heels of loaves, if you try to enforce the principle of eating remnants to the last mouthful; you cannot furnish the breakfast-table with nothing but the scraps left from the dinner bread; and in many cases if the rule was insisted on that the inhabitants of the kitchen should use up the broken bread from the parlour, rebellion would ensue, and that so frequently that more money would be spent on registry office fees than would pay the baker's bill for a twelve-month. No; the broken bread cannot always be used up by eating it *pur et simple*; but nevertheless she must be a very unimaginative woman who cannot find means for disposing of even the very last crumb without necessitating a grumble from any one.

Here are twelve ways for using broken bread:—

1. Grated fine and used for puddings; by this means the smallest scraps may be used. Recipes for many puddings requiring bread crumbs will be found in the following pages.

2. Sliced and used for puddings.

3. Grated and used in rissoles, croquettes, kromeskies, etc. See Chapter VII.

4. As pulled bread to serve with cheese, p. 200.

5. For bread sauce, p. 178.

6. In soup, p. 136.

7. In boiled bread and milk for children, p. 211.

8. Dried in the oven on a tin till quite brown and crisp, pounded in a pestle and mortar, or rolled between paper with rolling-pin and sifted through a wire sieve. This, prepared at odd leisure moments and kept in a tin canister, is then always at hand for dusting over a ham or boiled bacon when the skin is stripped off after boiling. Bread crumbs of this sort also make very rich brown puddings.

9. Rubbed fine and used for dipping fillets of fish or cutlets in after dipping them in milk or beaten egg or batter previous to frying.

10. For making forcemeat and stuffings of various sorts.

11. Cut in little squares and fried to serve with soup.

12. For mixing with batter for children's pancakes, see p. 212.

HOW TO "BROWN" AND "THICKEN" ECONOMICALLY.

Browning.—When strict economy has to be studied, "browning" for soups, hashes, etc., should never be bought, as it can be made without expense or trouble merely by putting two or three lumps of sugar in an iron spoon on the edge of the fire; it soon becomes like melted toffee. A very few drops of this gives a rich colour: it must be added slowly, stirring with another spoon so that the colour may be equally distributed, and care should be taken not to add too much.

Brown Roux (French).—Melt quarter of a pound of butter in a saucepan on a low fire, dredge in half a pound of flour, stir till brown, keep in corked jar. This thickens and browns at the same time.

Thickening.—This is a very easy matter. Put a heaped tablespoonful of flour, or one not heaped of corn flour (because corn flour thickens more than ordinary flour), into a basin, rub it smooth with the back of a spoon, add gradually a little *cold* milk or water, rubbing *very* smooth till the mixture is the consistence of thick cream; then pour it into boiling milk or stock, and stir briskly, boiling for fully five minutes. If not boiled thus, the raw gritty taste of the flour would be very disagreeable. When we see how very simple it is to "thicken" there is no excuse for sauces, etc., being *lumpy*, as they so often are when concocted by careless cooks. The above proportion will thicken about a pint of milk, but the quantity used must be regulated by the amount of thickening desired, using more or less flour as a thicker or thinner sauce, soup, etc., is required. Corn flour (or arrowroot) gives a more delicate flavour than ordinary flour.

ECONOMICAL BATTER FOR FRYING.

Batter in which to dip fritters, cutlets, etc., before frying can be made of milk, flour, and eggs, or of milk and flour, *or of flour and water only*. I have been jeered at for advising people to try the latter, but it makes excellent batter if smoothly mixed and made as thick as double cream; and where the expense of eggs and milk is a con-

sideration no other kind should be used, and if tried once it will be sure to be used again. Only a *thin* layer of it is necessary, it should not be put on too thickly.

A NICE BATTER FOR FRYING FILLETED FISH.

Shake lightly four ounces of flour into a quarter of a pint of warm water, add a tablespoonful of oil, the white of an egg well whisked, and a pinch of salt. Blend quite smooth, and let it stand ten minutes before use.

CLEANLINESS.

There can be no true economy without perfect and careful *cleanliness*. A cook who puts away her utensils dirty will lose many a dish. Sieves, pudding-cloths, jelly-bags, etc., should *not* be washed with soap, but should be *scalded* and *well dried* directly they are done with, otherwise the flavour of onions may ruin a dish of jelly, or a musty pudding-cloth may make a valuable pudding uneatable.

CARE IN FLAVOURING.

Over-salting or over-sweetening may be the cause of great waste, in fact all kinds of flavourings, condiments, and seasonings should be added with great care. Remember, it is always easy to add more sugar, pepper, or salt at table, but it is impossible to take out any of these when once put in. Dishes spoiled in this way may be made eatable next day by some additional stock or material to dilute the over-flavoured dish, but that is not much satisfaction to those who have lost their dinner, or part of it, by reason of the cook's carelessness.*

English cooks hardly ever use garlic as a flavouring, yet few things come up to it if used properly. Chopped garlic would of course be unbearable, not so is the nameless aroma imparted by rubbing a dish with a clove of garlic cut in two. This upon the dish on which roast mutton is served, or in the salad bowl, etc., etc., gives a savoury fragrance not obtained from anything else.

* An over-sweetened pudding not of a nature to be added to—as rice—may be cut in slices, have lemon or orange juice, stewed fruit, or an unsweetened custard poured over it, and be served hot or cold.

VALUE OF SAUCES.

The knowledge of how to make a good thick brown or white sauce is very useful to the economical cook who has got to make a very little money go a very long way in housekeeping. Odds and ends of fish, meats, game, etc., can be used up, and made to go much further than if they were merely served cold, by warming through in a savoury sauce. Recipes, Chapter X.

WHAT A MINUTE'S NEGLECT MAY DO.

1. Spoil a whole pan of preserve if it be placed flat on the fire (which it never ought to be) and left on full boil ; or lose much of it by its boiling over.
2. Make a saucepan of milk unusable by burning.
3. Cause half the milk to be lost by boiling over.
4. Entail the loss of a whole saucepan of thick soup by burning.
5. Over-cook the eggs.
6. Over-heat the frying oil, so that the whole shall burn whatever is put into it.

* * For the relative value of the nourishing and digestible qualities of foods, see section on "Invalid Feeding."

CHAPTER III.

METHODS OF COOKING—AVERAGE TIME REQUIRED FOR COOKING MEAT, FISH, VEGETABLES, ETC.—RULES FOR COOKING FISH AND VEGETABLES.

THE ordinary methods of cooking are—1, Roasting; 2, Boiling; 3, Baking; 4, Frying; 5, Broiling; 6, Stewing; 7, Steaming; 8, Toasting; and by each method a special object is to be attained, so it is important that amateurs who try their hand at cookery should understand the difference between these methods.

In *Roasting*, the object is to cook the meat in a savoury manner and at the same time to *keep the juice in it*, therefore it should be put very close to a clear brisk fire, or, if the roasting be done in an oven, into a very brisk oven, for the first ten minutes, and each side should be exposed to the fire in turn. The reason for this is that the great heat causes the albumen (which is like the white of an egg) in the meat to coagulate or harden, and thus a sort of thin seal is formed which effectually keeps in the juice of the meat, while at the same time allowing the heat to penetrate and cook the joint. If the meat be put into a slow oven or to a dull fire, or too far off from the fire, the meat will only be gradually warmed, and the albumen *instead of being quickly hardened on the outside* will be dissolved, and therefore the juice will be drawn out. The result of such cooking will be *soddened* instead of *savoury* meat. After the first ten or fifteen minutes of brisk cooking the meat may be drawn a little further from the fire, or the heat of the oven may be gradually lowered to a point at which the meat will just slightly frizzle and can be finished at this degree of heat.

In *Boiling* meat to serve as a joint, the same object is

necessary, *i.e.*, to form a seal or casing of hardened albumen round the meat, therefore it must be plunged into fast boiling water, and the water must be kept boiling for ten minutes, then for the rest of the time it should simmer. Large pieces of meat are more suitable for boiling than small pieces, which it is more economical to reserve for stewing. If the meat or bones, however, be intended to make soup, exactly the opposite procedure must take place, because the object then is to extract all the goodness out of them into the water, therefore they should be cut or broken small, put into *cold* water, and gradually brought to a brisk simmer.* In making beef—or other meat—tea for invalids the water should *not* simmer, it should always be kept just *under* the simmering point, in order to extract the albumen and juices from the meat. If this were boiled the albumen in the meat would be coagulated, and therefore not extracted *from* the meat *into* the water, which is the object to be attained in making beef-tea.

In *Baking*, the same object is to be attained as in roasting, therefore have the oven very hot at first. This is very necessary when pastry, bread, or cakes are baked. If pastry be put into too cool an oven it will not rise properly, but will be heavy and greasy.†

Three simple methods are useful for testing the heat of the oven, when, as in the generality of houses, there is no oven thermometer:—1, Put a sheet of note-paper into the oven, shut the door and open it in *one* minute; if the paper is curled up the oven is hot enough to raise pastry. 2, Put a slice of stale bread in, open the door in *three* minutes; if the bread is a light golden brown the oven is fit to receive dough for making bread. 3, Shake some flour on a tin and put it in the oven, open the door in *two* minutes; if the flour is a light brown the heat is right for bread or large cakes; if *black*, the oven is too hot.

Frying is a much abused and misunderstood method of cooking. The “general servant’s” idea of frying is to take a pan, put some fat into it, put the article to be cooked

* There is lime and gelatine in bone; to extract these, prolonged boiling of bones is necessary in order to have rich soup from them.

† Baked puddings are not so digestible as those which are steamed or boiled.

on top of the cold fat, or perhaps first warm the fat, and then let the pan frizzle at its own sweet will. Now this is not *frying* at all. Frying really means "boiling in oil," and the *reason* oil is used for the purpose instead of water is that *it can be made hotter than water*. Try with ever so great a fire, water can never be made as hot as oil. Water boils at 212° F., and whether it is boiling wildly or gently it is no hotter than this. Oil must be heated to 500° F. or thereabouts before it boils, but it is not necessary to get fat or oil up to this pitch of heat before cooking with it. In fact, if things were put into oil that was *actually* boiling they would be quickly burnt to a cinder. It is only necessary to raise the temperature considerably over that of boiling water in order to fry properly. Testing the oil with a thermometer is an expensive operation for most amateur cooks as they generally smash the thermometer, and a simpler and equally efficacious test can be made by throwing a bit of bread crumb into the oil or dripping, and if it quickly crisps up and turns a nice yellow colour the oil is hot enough for cooking in. In some cookery books "tables" are given of the different temperatures required for cooking various articles, and in some of these it is stated that the temperature required for frying *whitebait* is 400° Fahr., which is quite absurd, for if this delicate little fish were put into oil at such a temperature it would be a delicate little fish no longer, but would be quickly transmuted into charred shreds, and would be quite uneatable. Oil or fat when it boils does not bubble up as water does, but a slight smoke arises from it when near boiling point, and when this is seen it is very near *burning* point also. Another simple plan for testing the heat of fat or oil to see if it be fit for frying is to dip the fingers into cold water and sprinkle them into the pan; if the oil hisses up sharply the heat is right.

Frying in the real sense cannot be done on a flat pan, it should be done in a deep pan, a stewpan or saucepan, for instance, and much the best plan is to have a *frying-basket*; this is a wire basket into which the fish, cutlets, rissoles, etc., are put, and the basket is lowered into the pan and withdrawn when the cooking is completed. Some people may imagine that on account of the quantity of fat or oil used by this method of frying it is not economical; this

is quite a mistake, for the same fat will do over and over again. It has been truly said, "It is far cheaper in the long run to use two pounds of fat and cook things properly, and make the same fat do fifty times, than to use two ounces, cook the fish badly, and let the remains of the fat go into the grease-pot." This is very true. The fried article must never, of course, be transferred straight from the frying-basket to the dish. It must first be turned on to blotting or kitchen paper (this costs about fivepence a quire), or on to an inverted sieve or a hot, clean cloth, and allowed to stand for a minute before the fire; the superfluous oil will quickly disappear. The only thing for which the flat pan should be used is for "dry frying," as for instance, sausages, eggs, etc., and for this a flat pan with a little hot grease does very well. Bacon is much better if toasted before the fire than fried on a pan.

Broiling is done on a gridiron, or in a Dutch oven, or in a hanging gridiron; in either of these ways the process is really roasting, and has the same savoury results. Broiling can *equally well* but much more economically be done on a pan; the method is fully described in Chapter VI. *Stewing* has already been described, p. 118. *Steaming* can be done either in a steamer (*i.e.*, a tin cylinder with a lid and holes in the bottom, and made to fit on a saucepan), or in a basin or jar standing in a pot of boiling water, or in a specially constructed "cooking pot," which is made sometimes with six receptacles, one over the other, the different contents of each being cooked by the steam from the water in the lowest one. Potatoes and puddings are much better steamed than boiled in water.

Toasting is the most delicate of all methods of cooking, but is of course only suited for small things. A trout, for instance, enclosed in buttered paper and slung on the hooks of a Dutch oven and toasted in front of a clear fire, makes a "*plat*" to satisfy the most epicurean taste.

AVERAGE TIME REQUIRED FOR COOKING.

Beef, Mutton, and Lamb, fifteen minutes for every pound, with fifteen minutes over added to the entire time of cooking the joint; if liked *very* well cooked, twenty minutes instead

of fifteen. *Pork* and *Veal* (which are dangerous to eat unless very well cooked), twenty minutes for each pound, and twenty minutes added to the time needed to cook the whole. This, it must be remembered, is the *average* time needed, but several things must be considered which may cause some alteration to the general rule. The *shape* and *size* of the joint must be noted. A long, narrow piece of beef, for instance, will not take so much cooking as a short, thick piece, and if the cooking is conducted in a gas oven, which has a much steadier and more equable temperature than an ordinary oven, a less time will be needed. Experience and observation are required for the proper performance of even such simple things as roasting and boiling. The same time should be allowed for boiling as for roasting.

Fish.—Average time, ten minutes to the pound, but if the fish is very thick, as salmon or cod, nearly twice this time may be needed. No fish is cooked enough unless the flesh separates easily from the bone. Underdone fish is dangerous to eat.

Fowl.—Small chickens, twenty to thirty minutes. Fowl, thirty minutes to an hour, according to size. Turkeys, from one hour, if small, to two hours or more if very large. Ducks, one hour, if large.

Game.—Hare, roast, one hour to one and three-quarters, according to size. Pheasant, large, fifty minutes. Venison (haunch), small, three hours; large, four hours and a half.* Rabbit, boiled, thirty to forty minutes. Plover, roast, ten to twelve minutes. Snipe, fifteen to twenty minutes. Partidges, roast, half-an-hour, if large and fat, twenty minutes if small.

Ham.—Boiled. One weighing about 8 or 9 pounds will need three and three-quarters to four hours.

Bacon.—Boiled, half-an-hour to the pound; put it into cold water, and count from commencement of boiling. Boil gently, skimming the water well.

Fish.—Lobster, boiled—large, twenty to thirty minutes. Trout, toasted, ten to twenty minutes. Whitebait, to fry, two to three minutes. Oysters, scalloped, ten to fifteen minutes.

* When enclosed in paste.

Vegetables.—Potatoes, old, half-an-hour; new, twenty minutes. Asparagus, spinach, sea-kale, sprouts, cabbage, twenty to thirty minutes. Carrots, old, one hour; young, forty minutes. Turnips, old, forty-five minutes; young, thirty minutes. Parsnips or peas, young, fifteen minutes.

Meat Pies.—One to two hours, according to size. The pie may with advantage stand part of the time on a hot part of the range instead of in the oven.

Puddings.—Plum pudding—if very big, allow two hours to pound; it can be boiled two days in succession. Small, one and a half hours to pound.* Meat pudding, one hour to pound. Jam roll, apple dumpling, half-hour to pound.

NOTES ON COOKING FISH AND VEGETABLES.

Fish.—Fish should be boiled in salted water to make it firm. Six ounces of salt to gallon of water. Sea water is best if it can be had. Never pour water over fish in fish kettle, it breaks the skin; lower the fish into the water. Fish should simmer briskly; if it boils fast, the outside will be broken before the inside is cooked.

Vegetables.—Water should be salted as for fish. All vegetables (*except* old potatoes, dried peas and beans, and Jerusalem artichokes) should be put into plenty of boiling water, which should be kept boiling briskly *without a cover* till they are done, when they must be at once lifted out, as they become soddened if left lying in the water. Old and stale vegetables require longer cooking than young fresh ones. “Vegetables boiled in water to which salt has been added are not so tender as they would be if no salt were added. The salt is generally put in to preserve the colour” (Wynter-Blyth, *Dict. of Hygiene*). Some cooks put a spoonful of moist sugar instead of salt into the water with green vegetables—and it would probably not affect their tenderness. The use of common washing soda in boiling vegetables should never be allowed. It is a *caustic*; and though it may make greens greener, it will injure the coating of

* This may seem to some people an excessive time, and such puddings can no doubt be cooked in a shorter time, but they are *much* better if subjected to prolonged boiling, which makes them brown and rich and much more digestible than if cooked for a shorter time.

the stomach. A couple of lumps of sugar and some mint should always be boiled with peas and new potatoes, their flavour is greatly enhanced thereby.

Note.—If a crust of bread toasted till nearly black be put into the water where greens are boiling, it will prevent the horrible smell that arises when they are cooking.

CHAPTER IV.

RECIPES FOR SOUPS (ECONOMICAL).

CABBAGE SOUP.

Requisites.—One quart of stock or water in which meat, etc., has been boiled, one head of cabbage, two ounces of clarified dripping, one tablespoonful of flour or corn flour (the latter is best), pepper and salt.

Method of making.—Soak the cabbage in salt and water, so that it may be quite free from insects; boil until tender, put it into a colander and chop fine, carefully pressing all the water out; put it then into a saucepan with the stock, dripping, salt and pepper, and put it on to boil. Put the flour into a basin, add a spoonful of stock or water, and blend till perfectly smooth; pour it into the soup when at boiling point, and boil for five minutes, stirring well. If the soup is preferred thicker more flour may be used. If the tureen be rubbed with a bit of cut garlic the soup will be improved to the taste of those who like its savoury flavour.

CROUTE AU POT (FRENCH SOUPE MAIGRE).

No meat stock required.

Requisites.—One quart of the water in which haricot beans or green French beans have been boiled, four onions, a few thick slices of bread without crust, a bunch of savoury herbs—parsley, thyme, etc.—pepper, salt, a little dripping.

Method.—Peel, slice, and fry the onions till tender, add them with seasoning of pepper and salt to the liquor, boil for ten minutes, and pour while boiling on to the bread in the

tureen. There is much more nourishment in this soup, especially when liquor from haricot beans is used, than most people think.

CHEESE SOUP.

Brown.

Cut some small squares of bread crumb, lay them in the bottom of a soup tureen, grate a thick layer of cheese (Parmesan is best) over them, and pour on a quart of boiling brown stock.

White.

Proceed as for above, but instead of brown stock use milk, or milk and water, in which an onion, a bunch of parsley, and one or two sticks of celery have been boiled, and which has been then strained through a fine sieve.

CARROT SOUP.

Requisites.—A dozen carrots (if very big, eight will do), one small onion, two quarts of water, or what of course is better, stock, or the water in which any kind of meat, tripe, rabbit, or fowl has been boiled.

Method.—Wash, scrape, and slice the carrots, and boil in the water or stock till tender; if the carrots are young less than an hour will do. Then place a very clean hair sieve over a large basin, pour the contents of the saucepan into the sieve, and rub the carrots through with the back of a wooden spoon, occasionally taking a teacupful of the soup that has flowed through and pouring it over the carrots to help them through the sieve. Any hard, stringy part that remains behind must be thrown away. Put back in the saucepan and boil up. If the soup, when the carrots are all rubbed through, is not as thick as cream, it must be thickened with flour or corn flour, as at p. 125.

CLEAR SOUP (ECONOMICAL AND EXCELLENT).

Requisites.—Six carrots, five or six onions, four or five turnips, small bunch of parsley, small teaspoonful of celery

seed, three quarts of cold water, a large, heaped teaspoonful of Liebig's Extract of Meat, two or three lumps of sugar, whites and shells of two eggs, a wineglassful of sherry or marsala; pepper and salt to taste.

Method.—Wash and scrape carrots, peel onions and turnips, and put them with the water, pepper and salt into a very clean saucepan, and boil gently till the liquor is reduced to rather less than two quarts. Place the meat extract and sugar in a basin and strain the boiling liquor over it through a fine hair sieve. Stir well, put into a clean saucepan, and bring nearly to a boil, then pour in the whites of eggs well whisked and the crushed shells. (These are put in for the purpose of clarifying the soup, because they gather all impurities to them.) Mix well and boil up, then allow it to boil gently for ten minutes *without touching or moving the saucepan*, because if moved the clearing process will be interfered with. Then draw the saucepan quietly to the side of the fire and let it stand for twenty minutes, after which pass it through a jelly-bag.* It ought to be as clear as crystal; if not, pass it through the bag till it is clear. Boil up, add a glass of sherry, and serve.

Note.—Those who try this soup will admit the absurd extravagance of many cookery book recipes involving quantities of stock meat, etc., for making clear soup. The above soup is quite fit for serving at any dinner-party, and the actual cost of making is extremely small. It may be varied by adding some green peas, or scraps of carrots and turnips chopped fine or cut out with fancy cutters, or Italian paste letters, previously boiled tender. It is just as good if made the day before it is wanted and heated up.

GREEN PEA SOUP.

Make exactly as below, but substitute green peas for lentils, and add instead of parsley (or with it at discretion) a few sprigs of mint and three lumps of sugar. This soup can be very cheaply made of *dried* green peas; they must be soaked over night.

* A jelly-bag costs but half-a-crown and will last for years; an old bag is better than a new one, as it is thicker. There is no saving in making a jelly-bag at home.

LENTIL SOUP.

Requisites.—One pint of lentils, two quarts of water (stock, or the water in which meat, fowl, etc., has been boiled will of course make a richer soup, but plain water does very well), two onions, a carrot or two, parsley, any bones from a piece of cold bacon or bacon rinds, or the knuckle bone of a ham, or a slice of bacon, pepper, salt.

Method.—Simmer briskly all the ingredients (having sliced onions and scraped carrots) till the liquor is reduced to nearly half its quantity; it will take about an hour; rub through a sieve, as described for carrot soup, make very hot, and serve with fried bread squares.

MULLAGATAWNY SOUP.

Requisites.—Three pints of brown stock (if made from remains of roast game, hare, turkey, etc., so much the better), three or four onions, three or four slices of lean bacon or ham, half-pound of uncooked veal sliced, pepper and salt, two tablespoonfuls of curry powder, a little clarified dripping.

Method.—Slice the onions, fry them in dripping till gold coloured, take them out, and in the same pan* lightly fry the veal for a few minutes till it is just browned. Put the slices of bacon or ham, the veal, onions, and stock into a saucepan. Simmer slowly for an hour, skimming carefully, then strain through a sieve into another saucepan; blend the curry powder smooth with cold water or stock and add it, with cayenne pepper and salt to taste; boil for a few minutes, rub the tureen well with a bit of cut garlic, pour in the soup, and serve with rice boiled as for curry.

If veal be not at hand, the remains of any kind of game, chicken, rabbit, calf's head, whether cooked or not, can be used in its place. Chutney, mango pickle, West India pickle, may be added at discretion. A tablespoonful of finely grated cocoa-nut is by many considered an improvement.

MUTTON BROTH.

Requisites.—The water in which a neck of mutton has

* For this kind of frying the flat pan and a little grease is quite suitable.

been boiled, a small teacupful of barley, one or two turnips, onions, and carrots, bunch of parsley, pepper and salt.

Method.—Skim all fat off the water, boil the bones which remain from neck in it for half-an-hour, take them out, but leave any bits of meat in the broth. Add vegetables and barley, pepper and salt, and simmer for an hour. The vegetables should be sliced thin. This broth may be made from uncooked scrag of mutton, in which case send the meat to table in tureen.

MOCK TURTLE SOUP.

Requisites.—The liquor in which half a calf's head has been boiled, an onion stuck with half-a-dozen cloves, a bunch of sweet herbs (thyme, marjoram, etc.), bunch of parsley, a small teaspoonful of Liebig's meat extract, thickening of corn flour or arrowroot, juice of half a lemon, a glass of sherry, two or three lumps of sugar, forcemeat balls.

Method.—Skim and strain the liquor, and boil with the onion, cloves, herbs, and parsley until well flavoured; strain, colour with the meat extract, add the sugar, thicken to consistency of very thin cream; add the lemon juice and sherry and forcemeat balls, and serve very hot. Some of the gelatinous parts of the calf's head cut into small dice should be added with the balls.*

TO MAKE THE FORCEMEAT BALLS.

Take the brains from the calf's head previous to boiling, parboil (after washing and soaking in warm water) and remove the skin, pound up with a spoon, mixing in a seasoning of nepaul pepper, salt, and powdered sage; roll them into balls, dip in beaten egg, and then in very fine bread crumbs, and fry in clarified fat till brown; drain, then add to soup.

* This is not of course a *strictly* economical soup, but as half a calf's head can often be bought for 2s. 6d., and will make one or two good dinners, the making of soup from the liquor in which it was boiled cannot be considered extravagant, as the other ingredients required cost so little. The soup is quite fit to serve at a dinner-party. If the thickening be omitted it could be served as a "clear soup" if "cleared" as directed on p. 137.

OYSTER SOUP.

Can be made with tinned or foreign oysters.

Requisites.—One tin of oysters, or a dozen or two of cooking oysters, one quart of the liquor in which either rabbit, fowl, or knuckle of veal was boiled, or stock made from veal or chicken bones, one pint of milk, white pepper, thickening of corn flour.

Method.—Thicken the stock with the corn flour blended with the milk, boiling for five minutes, and season with pepper. Put the oysters and their liquor into an enamelled saucepan and let them become as hot as possible without boiling; if they boil they will become tough. After ten minutes slow stewing by the fire with a plate over the saucepan, put them into a hot tureen and pour the stock over them; serve with croutons (*i.e.*, small dice of bread fried in clarified dripping). If tinned oysters are used salt need not be added as they are salt enough. This soup can be made very rich and good by substituting cream for milk, and adding well-whisked yolks of eggs when the soup is in the tureen.

PEA SOUP (CHEAP AND SUBSTANTIAL).

Useful to serve when the dinner consists of but a small amount of cold meat.

Requisites.—Three pints of water, one pint of split peas, six ounces of fat pork or bacon, cooked or uncooked; a few sprigs of mint, a small lump of sugar, pepper, salt.

Method.—Stew the ingredients till the peas are tender (about three hours), rub through a sieve, and serve very hot with bread cut in dice and fried in dripping, and powdered mint handed on separate plates.

POTATO SOUP (NO STOCK NEEDED).

Requisites.—Six large potatoes, two onions, pint of milk, pint of water, piece of butter the size of a walnut, pepper, salt.

Method.—Pare potatoes thinly, peel onions, slice both thinly and simmer in the water till tender (about twenty minutes), pour through sieve into basin, rubbing through

with back of spoon, and pouring the milk (warmed) through at same time. Make the soup very hot, season, and serve.

RABBIT SOUP.

Requisites.—The liquor in which a rabbit has been boiled, teacupful of rice, teaspoonful of minced parsley, one onion, teacupful of milk, salt and pepper, one ounce of butter.

Method.—Simmer the onion in the liquor till flavoured, strain, add rice, cook till tender (about twenty minutes), stir in parsley, pepper and salt, milk and butter. To make it very good, stir in directly the soup has been poured into the tureen a well-whisked egg (carefully cleared of the string), stir well, and serve.

RICE MILK SOUP (EXCELLENT FOR CHILDREN).

Requisites.—One quart of milk or milk and water, or milk and water in which fowl, veal, rabbit, tripe, or turbot has been boiled, a breakfast-cupful of rice, one or two eggs, a dessert-spoonful of finely chopped parsley, pepper, salt, a blade of mace, corn flour thickening.

Method.—Boil the rice in water for twenty minutes, drain, and add it to the milk or milk and water, with pepper, salt, mace, and enough corn flour blended in milk to thicken the whole to the consistency of thin cream; boil all together, stirring well, for five or six minutes; put into a hot tureen, mix in one or two well-whisked fresh eggs, stir thoroughly, sprinkle the parsley over top, and serve immediately.

SEMOLINA SOUP (CHEAP AND NUTRITIOUS).

Requisites.—One quart of stock, or of milk and water, two ounces of semolina, one onion, bunch of sweet herbs and parsley, salt and pepper.

Method.—Simmer the onion, sliced, and the herbs and parsley in the stock for a quarter of an hour; strain, put the strained liquor into a clean saucepan, boil up, lightly shake in the semolina and seasoning, and then place the saucepan where it will *simmer* very gently for half-an-hour, stir occasionally.

TOMATO SOUP (NO STOCK NEEDED).

Requisites.—A tin of tomatoes, or eight fresh tomatoes, small bunch of parsley, one onion, half-pint of milk, three pints of water, two tablespoonfuls of corn flour, pepper, salt.

Method.—Put the tomatoes, sliced onion, parsley, well washed, water, pepper, and salt into a saucepan, and simmer for three-quarters of an hour; rub through a sieve; add the milk and corn flour, smoothly blended, and boil for seven minutes, stirring so that it shall not burn. It should be of the consistency of cream.

VEGETABLE MARROW PURÉE (THICK).

Requisites.—A large vegetable marrow, two ounces of butter, one onion, sliced, a stick or two of celery, three or four sprigs of parsley, three pints of milk and water or liquor in which fowl, etc., have been boiled, pepper, salt.

Method.—Pare and slice the marrow, and put it with the onion, sliced, the celery, and parsley into a saucepan in which the butter has been dissolved; let them simmer, but *not* brown, for ten minutes, then add the milk and water, or water in which haricot beans, or fowl, or knuckle of veal, or tripe, have been boiled. Simmer for three-quarters of an hour, rub through a sieve, and serve hot.

WHITE SOUP (ECONOMICAL AND EXCELLENT).

Requisites.—Two pints of milk, or one of milk and one of water, one onion, half-teaspoonful of sage, teaspoonful of mint and celery-seed, half an ounce of clarified dripping or butter, tablespoonful of corn flour, mace, salt, pepper to taste.

Method.—Boil all the ingredients (with exception of corn flour) for ten minutes. Be careful the milk does not burn. Strain through fine sieve or muslin; put into clean saucepan, add corn flour blended smooth in milk, and boil for five minutes, till consistency of cream.

NOURISHING SOUP FOR AN INVALID.

Requisites.—Six ounces of fillet of veal, one and a quarter

pints of milk, two dessert-spoonfuls of rice, half a small onion,* a few sprigs of parsley; pepper and salt to taste.

Method.—Chop the veal, which should be weighed after removing all skin and fat, and put it with the other ingredients into a saucepan and simmer very gently (if boiled fast most of it will boil away) for three hours, then work it through a fine sieve with the back of a spoon.† Serve very hot with sippet of toast.

* Some people extremely dislike the flavour of onions. For such cases the substitution of a blade of mace for the onion will be useful.

† Perfectly and delicately clean sieves and utensils should be used in making soups, or the flavours may be destroyed. They should be thoroughly washed first in hot and then in cold water, and dried in the open air each time they are used. When mention is made, "No stock required," it does not mean that stock or liquor in which meat, fowls, etc., have been boiled *must* not be used, but that it *need* not be used. Meat stock is always better than water.

CHAPTER V.

ECONOMICAL FISH COOKERY.

Steaming.—This is an excellent method for cooking small fish, such as whiting and haddock, or for fillets or slices of cod, sole, etc., in cases where frying is likely to disagree. It is a much more economical way of cooking fish than boiling, because none of the nutriment of the fish is lost in the water.

Method.—Put the fish, after being well washed in cold water, into a basin or jar, and either place this in a steamer over a saucepan of boiling water, or in a saucepan with water coming more than half-way up the side of the basin, and let the water boil round the basin or jar, the top of which must be covered either with the well-fitting lid of the jar, or with a cloth dipped in boiling water, and securely tied over top, or with a piece of stout tissue paper, which has been well greased, twisted tightly all round the edges of the basin. Time required, a very little longer than for boiling. If any scum gathers on the fish rub it off with a clean cloth, and put any liquor that has exuded with the steam into the sauce.

TOASTED FISH.

This is a most savoury method of cooking any kind of small fish, especially trout. Butter a sheet of notepaper, wrap the fish in it, pinning the corners together if necessary, put a toasting-fork through the upper edges of the paper, and toast from eight to twelve minutes, according to size of fish. A toasting-fork that turns without necessitating the withdrawal of the prongs is the best to use.

COCKLES (STEWED).

Let the cockles be as fresh as possible—this may be known by their shells being tightly closed—rinse them quickly in plenty of cold water to clean the shells, put them into a deep basin and let it stand for a few minutes in a warm place (as the oven with the door open), or put them in a saucepan on the side of the fire; this is to open the shells. When open pick out the cockles on to a dish, strain the liquor from the cockles through muslin to free it from sand, and mix it with a teaspoonful or two of vinegar, a piece of butter the size of a walnut, seasoning of pepper and salt. Thicken some milk as directed at p. 125 (the quantity must depend on the amount of cockles used), mix this with the liquor from the cockles, and cook till the raw taste of the flour is removed (about five minutes); take the saucepan off the fire, and when the mixture *has quite ceased boiling*, put in the cockles and keep hot for a few minutes till the cockles are warmed through. They must on no account boil, or they will become like bits of india-rubber. There should be just enough sauce to cover the cockles. Serve with thin bread and butter.

COD'S ROE (POTTED).

An excellent breakfast or supper dish. Very good for making fish sandwiches.

In the winter and spring cod's roes are plentiful, and often very cheap.

Requisites.—A cod's roe, vinegar, ketchup, butter, pepper, and salt. (The roes of cod fish vary in size, to which the ingredients must be proportioned.)

Method.—Boil a large roe in salted water for fifteen minutes, take it up and put it on a dish, and when cool remove all skin and membranes with a fork very carefully; scrape the skin with a spoon, as the roe adheres to it, and if this be not done a good deal of it will be wasted. Pour over it half a pint of mushroom ketchup, half a pint of vinegar (if the roe is small less of these will be needed), add a seasoning of cayenne and salt, and three-quarters of a pound of salt butter broken up in pieces. Then put the whole into an enamelled saucepan and stir constantly;

let it simmer for about ten to fifteen minutes, and pour into small jars; when cold cover with greased paper, or pour oiled butter over the top. In cold weather it will keep for some time.

COD'S ROE (FRIED).

Boil a cod's roe for ten minutes in salted water, when cold cut in slices an inch thick, and fry in clarified dripping a light brown. Some people dip the slices in egg and bread crumbs, or batter, before frying, but this is not necessary. Drain well before serving.

FISH CAKES.

Shred any remnants of cold fish, mix them with cold boiled potatoes which have been mashed perfectly smooth with plenty of milk, season with a little mushroom ketchup or anchovy sauce, or any other sauce which is at hand, pepper and salt, form into neat flat cakes, and either fry in fat or dot little pieces of clarified dripping or cold bacon fat over the top, and bake in a smart oven or in a Dutch oven till brown and very hot.

FRICASSEED FISH.

When it is necessary to make a little fish go a long way, it will be found much better to fricassee it, as the sauce makes it go much further and makes the dish appear more plentiful than if the fish were merely boiled or fried. The remains of cold fish make an excellent fricassee. Any kind of white fish is suitable for fricasseeing; it must be boiled first if the fricassee is not made out of remnants of cold fish.

First make a sauce as follows: Take one pint of milk (or more or less according to quantity of fish), season this by stewing in it some peppercorns, a blade of mace, and if possible a few white button mushrooms, or a slice of ham. If the fricassee is desired brown, mushroom ketchup may be mixed with it, or flap mushrooms, first slightly fried, may be stewed in the milk, or it may be coloured pink with anchovy or tomato sauce. When the sauce is suitably flavoured, thicken it (not too thick) with corn flour, put in the fish

and heat it thoroughly, but do not let it get mashed or boiled. Make on a hot dish a neat wall of boiled rice, or of potatoes smoothly mashed with milk, put the fricassee in the middle, and serve hot. The mashed potatoes or rice will also help to make the fish "go further." Stewed mushrooms, if procurable, are a great addition to this dish.

FISH À L'ESPAGNOLE.

This is a favourite Spanish dish, and the same recipe may be used with remains of cold fowl, turkey, rabbit, etc.

Take the remains of any kind of white fish, and the same quantity of rice that has been boiled till tender in water; mix with them several tomatoes (the more the better) which have been skinned and stewed in a little butter; add some salt, pepper, and a little more butter, and after mixing all well together heat in a saucepan till thoroughly hot, taking care they do not burn. A rub of garlic, either on the saucepan or dish in which the mixture is served, will be a great improvement to many tastes.

GURNET OR HADDOCK, STUFFED AND BAKED.

Tell the fishmonger to send the haddock prepared for stuffing. Make a stuffing of bread crumbs, seasoning of pepper, salt, thyme, parsley, and marjoram, etc., the grated or thinly-scraped rind and the juice of a lemon, or vinegar if a lemon cannot be procured, and suet or clarified beef-dripping finely chopped. The proportion of this last should nearly equal the bread crumbs. Moisten all slightly with milk, or much better, with a beaten egg, stuff the fish, and stitch it up with a needle and coarse thread. Place in a baking-tin with plenty of dripping over and round the fish, and bake for half-an-hour. Remove the stitching thread, drain the fish before the fire, and serve on a hot fish napkin, with garnish of lemon and parsley. Make a little milk sauce (p. 182) and flavour with anchovy, ketchup, or other sauce; send this to table in a sauce-boat.

POTTED FISH (MACKEREL, HERRINGS, OR SPRATS).

EXCELLENT BREAKFAST DISH.

Let the fishmonger prepare the fish for cooking by

cutting off heads, tails, and cleaning insides. Wipe them in a clean cloth to remove scales, and dip each lightly in fine flour, shaking to remove any superfluous lumps. Slice an onion (raw) and lay it in the bottom of a pie-dish, with a teaspoonful of peppercorns, and two or three bay leaves (can be got at most green-grocers). Lay the fish neatly on these, sprinkle more peppercorns over, and, if approved of, another layer of sliced onion and a bay leaf or two, but to many tastes a single layer of these will be sufficient. Pour a mixture of vinegar and table beer in equal parts so as to just cover the fish, and bake for half-an-hour. Some people use vinegar without any beer, others dilute the vinegar with water instead of beer. Individual taste and convenience may be followed. This dish can be made more elegant by having the fish boned (very easily done), and rolling up each fish neatly, and packing them on end in the dish.

Another way is to omit the onion and rub the dish with garlic instead, and to tie the bay leaves and peppercorns in a muslin bag, which is removed before serving. The addition of a glass or two of light wine (hock, etc.) is by some considered an improvement.

LOBSTERS (TINNED), TO DRESS.

Put a quarter lb. of cooking butter (margarine at 6d. or 8d. a lb. does very well) into an enamelled saucepan, when melted, empty the tin of lobster into it; season well with cayenne pepper, salt, and vinegar or lemon juice, and simmer till the whole is as hot as possible. This may be "scaloped" by mixing with bread crumbs till of a consistence to fill scallop shells or patty pans. It should then be browned before the fire or in the oven, by strewing bits of butter on the top.*

LOBSTER CUTLETS (TINNED LOBSTER).

These may be served as a "fish course" at a small dinner. They also make an excellent luncheon or supper dish.

* Tinned foods should not be bought if the tin bulges at the end, as in that case air has entered and decomposition commenced.

Requisites.—One tin of lobster, four tablespoonfuls of fine bread crumbs, one lemon, cayenne pepper and salt, one or two eggs.

Method.—Empty the tin into a basin, put in the bread crumbs, juice and grated rind of lemon, pepper and salt to taste, and one or two eggs well whisked. Mix all thoroughly with a fork till it is a smooth firm paste. Shape like small cutlets, or if preferred, like balls; dip either into flour and water batter or into beaten egg and bread crumbs, and fry in clarified fat for about seven minutes. Serve on a fish napkin, garnished with sprigs of parsley and cut lemon. (*Drain well from grease.*)

FISH PIE.

Put the remains of any kind of cold fish (except herrings or salmon), quite free from skin or bone, into a pie-dish, cover with white sauce made by recipe (p. 182) and flavoured with anchovy sauce or mushroom ketchup, or Worcestershire sauce, pepper and salt to taste. Cover with a layer of potatoes mashed smooth with milk or dripping. Bake for twenty-five minutes. Instead of white sauce meat gravy may be used.

MAYONAISE OF COLD FISH, LOBSTER, CRAB, ETC.

Make a mayonaisse sauce according to p. 180; mix the fish in flakes with shred lettuce leaves, and cover with the sauce. Mayonaisse of fish may be garnished with hard-boiled egg in slices, with sliced cucumber, or tomatoes, or capers, or the coral of lobster. Cold salmon makes an excellent mayonaisse.

OYSTERS (SCALLOPED).

In some scallop shells or patty pans put a mixture of chopped up oysters, bread crumbs, and butter in bits, seasoned with pepper, salt, a little vinegar or lemon juice. Brown before the fire, *but do not bake*, as this would harden the oysters. Tinned oysters do very well for scalloping.

SHRIMPS (POTTED).

Pick the shrimps (cooked) from the shells, endeavour-

ing to have them as whole as possible. Put a piece of cooking butter into an enamelled saucepan, heat till nearly boiling, season with a little cayenne (no salt is needed if salt butter is used), and for those who like the flavour a small pinch of powdered mace, or allspice; put in the shrimps and stir them well round in the butter, let them simmer for a minute or two, then put them into small pots, pressing them in with the back of a spoon, and let them get cold; then, if they are to be kept for a few days, dissolve some butter and pour a teaspoonful over the top of each pot, to form a cake which will exclude the air; this may be dispensed with when only a small quantity for immediate use is prepared. Shrimps potted in this way are vastly superior in flavour and wholesomeness to the "pastes" sold by grocers, in which the shrimp is generally conspicuous by his absence.

SMELTS AU GRATIN.

(This dish is quite fit for the fish course of a dinner-party. The expense of preparing it is trifling, and it may suitably take the place of the costly salmon or turbot at the tables of those who wish to entertain economically.)

Bone and skin twelve smelts, wipe dry, place a layer of fine bread crumbs and little lumps of butter in a shallow china baking dish; place on this a layer of the smelts open flat, grate a layer of Parmesan cheese over the smelts, then a layer of bread crumbs and butter as before, and so on till the dish is full; season with pepper and salt, putting a layer of bread crumbs, butter, and cheese on the top. Bake in a moderate oven for about twenty-five minutes. Brown the top crisply and serve—by handing the dish round to each guest to help himself.

Note.—Filletted haddocks, plaice, soles, or whiting are also very good cooked in this way. Fishmongers will always bone or fillet fish without extra charge if desired to do so.

COD EN TRANCHES.

This is a good way for cooking the small tail part of a cod fish. Have it sliced about an inch and a half thick, wipe in a clean cloth, dip each slice in flour, and fry from ten to fifteen minutes, according to the thickness of the

fish, in clarified dripping, drain, place on a dish, and cover with meat gravy (if there is none make some with extract of meat) slightly thickened and browned (p. 125) and flavoured with a little onion and herbs (parsley, etc.). Capers, mushrooms, or oysters added to the gravy would be, of course, a great improvement.

SCALLOPS (CURRIED).

Simmer twelve scallops in a pint, or if very large a pint and a half of water, for ten minutes. Take them out and put them on a dish. Fry, until quite brown, four large onions in a little clarified dripping, put them into the water the scallops were boiled in, with one apple sliced, two prunes, a spoonful of chutney, a tablespoonful, heaped, of curry powder, salt and pepper; simmer for half-an-hour, rub through a sieve with a wooden spoon, thicken slightly, gently simmer scallops in it for an hour, and serve with rice boiled, as at p. 158.

Note.—If the scallops are very big, they had better be cut in two.

SCALLOPED SCALLOPS.

Procure the shells of some scallops, grease them, and put in each a scallop, dust it with pepper and salt, pour over it half a teaspoonful of vinegar, and cover with a layer of bread crumbs dusted with pepper and salt, moistened with the liquor of the scallops and a little vinegar, and strew bits of butter all over. Bake for twenty minutes, and brown the crumbs if necessary before the fire, adding a little more butter if requisite.

WHITEBAIT.

Some people may think recipes for cooking whitebait out of place in pages devoted to *economical* cookery, but they are not so in reality. Whitebait is not at all an expensive fish, but many look on it as a sort of unattainable luxury only at the command of those possessing a first-rate *chef*—in fact, some foolish people if they are giving a dinner actually hire a man especially to cook the whitebait! Now any girl of average intelligence can with a little practice learn to cook whitebait to perfec-

tion; the only expense attendant on it will be the cost of two or three pints of the fish, which she will probably spoil during her practising. There is no need to invest in thermometers for testing if the frying fat be of the right heat, as by throwing a bit of bread crumb into the fat its heat can be accurately tested. If it crisps up a nice light brown in half a minute it is of the right heat for cooking the whitebait. You *must*, however, invest to the extent of two or three shillings in a frying-basket, as whitebait cannot be cooked without it. The basket will of course last for years, with care.

FRIED WHITEBAIT.

Procure the fish as fresh as possible; they should be bright and shining, and free from sea-weed, etc. Have a clean cloth well floured; put a small handful of whitebait at a time into this, roll the fish gently in it so that they may be equally floured, turn them into the frying-basket, shaking off carefully all unnecessary flour; have a deep stewpan nearly full of well clarified fat, see that it is of the right heat by testing with a bit of crumb of bread,* plunge the basket into it, and cook for about two minutes if the fish are very small, or three minutes if they are large. Drain on a sieve turned upside down before the fire. When all are done, pile on a hot napkin on a hot dish, and serve with thin brown bread and butter, cut lemon, and cayenne handed round on a separate dish. The bread should be divested of crust, buttered with good fresh butter, two slices pressed together sandwich-wise and cut in triangles. The cayenne cruet may be placed in the middle of the plate, the sandwiches and quartered lemon prettily disposed round it.

DEVILLED WHITEBAIT (RED DEVIL).

As the fish is being dished dust with cayenne or nepaul pepper, or both mixed.

DEVILLED WHITEBAIT (BLACK DEVIL).

Dust as above, but with black pepper.

* See p. 130.

Note.—People who entertain will find it a real economy to see that their cook learns to fry whitebait properly, as a dish of nicely cooked whitebait, costing perhaps but one and sixpence, will make as good an appearance at a small dinner as a much more expensive fish. At a smart dinner, of course, whitebait, plain and devilled, would be served in addition to the other fish course, but a very good appearance can be made at a small cost by serving whitebait and some inexpensive fish, as whiting, filleted plaice, cod au gratin, etc., as the second fish.

ECONOMICAL FISH STEW FOR WORKING MAN'S FAMILY.

Sir Henry Thompson's Recipe.

“Take three or four pounds of hake, ling, skate, or haddock, and a pound of ‘cuttings or trimmings,’* which are the best part of the fish for stock-making, remove all the fish from the bones, break up or pound the latter, and set aside with any portion of the head there may be and the cuttings. Put into a saucepan over the fire two ounces of lard† and two or three onions sliced, and let them fry until brown, then add two quarts of water and all the pounded bones and trimmings, some parsley or other green herbs, pepper and salt. Let the whole simmer for three hours. Strain out the bones, bits of skin, etc., add the fish in pieces [these should have been kept covered in a cool place while the stock was cooking], and boil gently ten or fifteen minutes. Thicken with sufficient flour mixed smoothly with a small portion of stock and added before finishing. In order to make the dish complete and substantial, a few small suet dumplings should be well boiled and put into the tureen.”

Note.—It is most important to *thoroughly drain* all fried fish before serving. If placed on a sheet of kitchen paper, or blotting paper, or a clean hot cloth, before a smart fire, the superfluous fat will quickly drain away, and the fish become dry and crisp. Nothing is more disgusting than a dish of greasy fish.

* Fishmongers sell these very cheaply.

† I would suggest dripping as a great improvement, especially beef dripping, which need not be clarified for this purpose.

CHAPTER VI.

HOW TO BROIL A CHOP OR STEAK ON A PAN.

THERE is nothing more surprising than the amount of crass ignorance that exists on the simple subject of cooking a mutton chop or a beef-steak, and lecturers, teachers of cookery, writers of cookery books, and such people who ought to know better, err in the matter just as much as the untrained girl who thinks that the way to cook a chop or steak is to put some grease in a pan, let it get warm, put in the steak or chop (probably after sprinkling it with pepper and salt!), fry it for five minutes on one side and then turn it over and fry it for the same time on the other side. This is just the way meat OUGHT NOT to be cooked, *because* such treatment draws all the juice out of the meat into the pan, which is the very thing to be avoided.

Cookery books of course all give the method for broiling chops and steaks on a gridiron, but it is when they come to cooking these things *on a pan* that they one and all prove themselves to be blind leaders of the blind, for I have never yet found a cookery book which told its readers how to perform the simple feat of cooking chops and steaks on a pan so that they will taste as well as if done on a gridiron, and it is what every one who studies economy should know how to do, because broiling on a gridiron causes a good deal of waste of meat, and also needs time and trouble in the preparation of the fire, for without a good clear fire such broiling cannot be done properly. On the pan, however, you can broil on almost any kind of fire, in the following way:—

Take a stout *iron* frying-pan (an enamelled pan or a thin tin one won't do), see that it is quite clean and *perfectly dry*, put it on the fire and let it get *nearly red hot*, then take

the chop or steak up with the sugar-tongs,* put it on the pan *and turn it every fifteen seconds*. Do not go away and leave it, but turn it regularly every fifteen seconds until it is done, which, according to the thickness of the meat, will be in from seven to ten minutes; so it is no great hardship to have to watch it for that short time. Then take up the meat and put it on a hot dish, and serve merely with a piece of butter placed upon it.

Any one who eats a chop or steak cooked in this way will never patronise the greasy pan method again. People are sometimes quite afraid to try this recipe, they think the meat will stick to the pan, or the pan will crack, or something else untoward will happen, but once they take courage and try the plan they are delighted with the result. It is from the universal praise bestowed on this recipe whenever I have recommended it, and it has been tried, that I have devoted a whole chapter to expatiate on the value of the almost red-hot iron pan as a utensil for cooking chops and steaks.

The *science* of the matter is that the albumen in the meat is coagulated on the outside, in the same way as in broiling or roasting, *therefore* the juice is kept in and not drawn out by being dissolved in warm fat. Fat also soddens the meat that is slowly cooked in it. Salt and pepper should *never* be sprinkled on meat while broiling, they also help to extract its juice.

THE EPICURE'S STEAK.

Take an evenly cut fillet steak about an inch and a half thick, cook it as just directed. Place it on an extremely hot dish, put a piece of butter on it, sprinkle a spoonful of finely chopped parsley over it, and a squeeze of lemon juice. Serve very hot. Gravy is not needed for chops and steaks cooked in this way, because gravy will flow from the meat when it is cut.

* Beef-steak tongs are sold for this purpose (in order to prevent prongs being stuck into the meat, which extracts the juice), but the sugar-tongs will do if the others are not procurable.

CHAPTER VII.

RECIPES FOR USING UP COLD MEAT.

BUBBLE AND SQUEAK.

MADE with remnants of cold corned beef and cold cabbage.

Method.—Slice the beef rather thin and fry in a little clarified dripping on a frying-pan; drain and put upon a very hot dish, and keep hot while quickly frying the cabbage; then dish, piling the beef and cabbage in layers, and seasoning the whole with pepper. The dish may with advantage be rubbed with garlic before dishing. Serve very hot.

CROQUETTES.

Chop up the remains of any broken meat, fowl, or game into small bits (don't mince in a machine), dust with pepper and salt, and mix with a good thick white sauce (made according to recipe on p. 182) into a firm paste, shape into balls, rolls, or little cakes, dip into flour and water batter, and then into fine bread crumbs, or dip in beaten egg and then into bread crumbs, and fry in boiling fat. The croquettes would to many tastes be greatly improved if the meat be minced on a dish previously rubbed with garlic. Chopped mushrooms would greatly improve the croquettes.

CURRY.

There is no better method of utilising cold mutton, pork, veal, rabbit, or chicken, than by making them into a good curry. *Beef* should never be curried—it makes a very inferior dish—but it is almost the only thing that should not be so dressed, as most things are capable of being served in this appetising form with advantage. Fish, eggs (hard

boiled), and most vegetables (haricot beans particularly) can all be curried, and thereby, on account of the accompanying sauce and rice, be made to go much further than if served quite plain. The following is an excellent recipe for a curry.

Requisites.—Six onions, three apples, four lumps of sugar, six prunes, three gherkins, one or two tablespoonfuls of chutney, two tablespoonfuls of good curry powder, two or three pints of stock or of Liebig's extract mixed with water till of the colour of brown sherry. Salt, pepper, clarified dripping, chillis, or any sauce or pickle that may be at hand can also be added at discretion, for all such additions can only improve the curry.

Method.—Peel the onions and apples, removing the cores of the latter, slice both, and fry in a little dripping, after shaking the curry powder over them, until they are a golden brown. Have the stock heating in a saucepan, and pour the contents of the frying-pan into it, and let the whole boil gently for an hour and a half till the liquor is reduced. Put a sieve into a basin, empty the contents of the saucepan into it, and rub the solid residue with a spoon through the sieve. Let it cool, and skim off the fat. This constitutes the curry gravy. Now take whatever is to be curried—if meat, cut it into neat dice, each about the size of a *small* broad bean, or flake the fish, or cut the remains of fowl, rabbit, etc., into nice little pieces, dip them lightly into fine, unlumpy flour, and put them into a saucepan with the curry gravy, the gherkins sliced, the prunes stoned and cut up, the chutney, sugar, pepper and salt, etc., and let the whole *simmer* (NOT BOIL, because it would harden the meat) for *at least* three hours. If it simmers very slowly for twice that length of time it will be all the better. Of course a curry *can* be made much more quickly, the whole of above process can be performed in less than an hour; but then it will not be nearly so good a curry as if made exactly according to this recipe, *because* long slow cooking is needed so that the meat may thoroughly absorb all the flavours of the preparation. An ordinary English curry consists merely of pieces of meat heated in gravy flavoured with curry powder, but such a preparation *is not a genuine curry*. The dish prepared from above recipe will be found worth the time

and trouble, which after all is not great. If required for early dinner or luncheon it will be better to make it the day before, and simmer again for an hour or two before serving. The above quantities are sufficient for a large dish of curry; if only a small quantity of meat is to be used, reduce the proportions. More curry powder and cayenne pepper can be used for those who like their curry very hot, and browning to make it darker.

TO BOIL RICE FOR CURRY.

Into half a gallon of boiling water put a tablespoonful of lemon juice, or half a lemon the juice of which has been used for something else. While fast boiling shake in half a pound of Patua rice* and boil fast, stirring now and then, for about twelve minutes, pour it into a sieve placed in a basin, empty away the water that runs through, and then wash the rice with warm water to separate the grains and remove the milky water that makes them adhere. Put the rice on a hot dish, and stand near the fire or in the oven to dry. Serve in a wall round the curry, or handed in a separate dish. This rice will be found very different from the pasty compound, the result of over long boiling and careless cooking, which the British cook too often serves with curry.

Note.—Before boiling, well wash the rice in several waters till not a trace of milkiness remains. This is the only occasion on which rice should be washed before cooking.

TO MAKE A GOOD HASH.

The most important thing for the making of a good hash is to have good gravy. Boil down the bones, skin, gristle, etc., of the joint the remains of which are to be hashed, with water to cover them to the depth of an inch or two, an onion cut up without peeling (this will help to "brown" the hash), peppercorns, and any available vegetables, such as a stick or two of celery, or the rough ends of celery, which do very well for flavouring, or a pinch of celery seed, a sliced carrot, turnip, etc. If there are any bones of game, wild duck, hare, etc.,

* The best rice should be used for curries.

in the larder, their addition to the gravy will help in the production of a most excellent hash. Let the whole boil gently for an hour or more *with the lid of the saucepan on*, strain into a basin and let stand in a cold place to let the fat settle; skim the gravy carefully, then add at discretion as much ketchup, or Worcestershire, or any other sauce the store cupboard affords, as will flavour the hash pleasantly; quantities cannot be given, as they depend on the amount of gravy there is. Add a tea-spoonful or two of vinegar, a spoonful of red currant jelly (this is a *great* improvement and should always be used), and pepper and salt to taste. In using Worcestershire sauce be careful, as too much of it overpowers the flavour of everything else. Pickles or capers cut up, or a spoonful of chutney, or of port wine or sherry, is also an agreeable addition. When the sauce is well and cunningly flavoured proceed to thicken and brown it, as directed at p. 125. *On no account make the gravy too thick or too thin*, it must hit a happy medium, and of all things thoroughly boil the gravy after the flour is added (corn flour is much better to use than common flour, and as it thickens more than the latter less of it should be used), as nothing so spoils a hash as the taste of half-cooked flour. Then, when the gravy is properly thickened and brown enough, *and when the boil has just gone off*, put in the meat cut up in small neat dice, or, if preferred, in thin slices, and let the saucepan stand covered by the fire till the meat is thoroughly heated through. The saucepan *must never be put on the fire to boil after the meat is added*, as if a hash is boiled the meat will be rendered hard, and the dish will be quite spoiled. Make a wall of mashed potato (mashed with milk if possible), or a wall of rice boiled in water as for a curry (p. 158), on a very hot dish, and place the hash in the centre.

KROMESKIES.

Mix a cupful of finely chopped ham, or any kind of meat (cold remnants can be used in this way), ditto of bread crumbs, two ditto of mashed potatoes. Mix in some butter or well clarified dripping of the size of an egg,

add with it a well-whisked egg, season well with cayenne or nepaul pepper and a squeeze of lemon juice. Form into small sausages, brush with egg or milk, dip in fine bread crumbs, and fry a golden brown in plenty of fat.

MACARONI VEAL.

Mince half a pound of cold veal, mix with four ounces of minced ham and two tablespoonfuls of bread crumbs, pepper, salt, and powdered mace to taste; add a seasoning of chopped parsley, lemon peel, thyme and marjoram, a squeeze of lemon juice, a well-whisked egg, and enough stock to moisten the whole. Put this when mixed smoothly into a pie-dish, cover with half a pound of macaroni which has been boiled till tender in salt and water (about half-an-hour), put a layer of fine bread crumbs over this, strew bits of butter over it, and bake for twenty-five minutes. If not sufficiently browned in the oven, may be finished before the fire.

MEAT PASTRY.

Take rather thin slices of any kind of cold meat, season well with pepper and salt, roll each slice up with a mushroom which has been fried for a minute or two in clarified dripping, or better still, in bacon fat; or if no mushrooms are at hand, roll the meat up with a slice of tomato, enclose each slice in a piece of puff paste (see p. 186), and fry in clarified fat till the paste is a light golden colour. Drain before the fire, and serve very hot.

PASTY (TO BE EATEN COLD).

Make some short crust by recipe, p. 185; mince up odds and ends of cold meats, bacon, ham, with a little chopped parsley, and a *very* little clarified dripping. Rub a bit of garlic over a mortar, put the meat, parsley, dripping, and pepper and salt into it, and pound all well together. Spread a layer of paste on a flat tin dish, cover with a layer of pounded meat spread smooth with a knife, cover with a layer of crust, and bake from twenty minutes to half-an-hour.

POTTED BEEF, HAM, ETC.

When beef-tea is made for an invalid the meat residue is too often thrown away; this is sinful waste of good food, as this residue contains a great deal of nourishment, and may be converted into excellent potted meat by the following method. Remove all gristle, skin, and bone, and put the meat into a mortar, with a seasoning of pepper and salt, a very small pinch of ground mace and of ground allspice, a tiny dust of nutmeg, and a piece of butter or clarified dripping the size of a walnut or an egg, according to the quantity of meat. Pound all well together until a smooth paste is formed; if approved of, a few drops of chilli or tarragon vinegar may be added. When the paste is smooth and all equally flavoured, press it into small pots, and if required to be kept for some days pour over the top melted lard—or butter—to exclude the air. Any kind of cold meat or game, or mixtures of both may be potted in this way, cold ham or bacon may be added and their fat will answer the purpose of butter or dripping, which need not then be added. The flavouring of mace must be carefully added, as if too much is put in its strong flavour will overpower the rest.

RISSOLES.

Chop up, or put through a mincing machine, any cold meat, scraps of ham, bacon, game, poultry, rabbit, etc., leaving out all skin, gristle, and hard edges. Have enough gravy (or extract of meat mixed with water) prepared and well flavoured, as directed for "Hash," to moisten the chopped meat, and half the same quantity as of meat of fine bread crumbs; mix the whole well with the juice of half a lemon, half a teaspoonful of finely-grated lemon rind, a seasoning of chopped parsley, thyme, marjoram, onion, salt and pepper, and one or more (according to quantity of material) well-beaten eggs. A spoonful of sherry or marsala may be added at discretion. The mixture should be quite soft and moist, as rissoles should *not* be dry and crumbling. Mix all thoroughly and form into balls or little rolls, dip in beaten egg and bread crumbs or

raspings seasoned with pepper, and fry in clarified fat till of a crisp, bright brown. Dish on a hot napkin or pretty dish paper, garnish with sprigs of parsley, and serve with cut lemon or brown gravy in a tureen.*

SHEPHERD'S PIE.

A shepherd's pie can be a very nasty dish or a very nice one, according to the way it is made.

To make a nice Shepherd's Pie.

Mince fine (if possible through a mincing machine) remains of any kind of cold meat, chop up and mix through this a tablespoonful of any pickle that may be at hand, or, best of all, some broiled mushrooms. Make a nice savoury gravy by boiling up all the bones and bits of gristle of the meat (if there are none, some gravy must be made with meat extract), with just enough water to cover them well, a sliced onion, carrot, stick of celery if at hand, parsley, and a dozen peppercorns. When this gravy is well flavoured, strain, cool, skim, add a tablespoonful or two of ketchup, or any sauce the store cupboard affords (a spoonful of wine also would be an improvement), brown it with a little burnt sugar or browning (see p. 125), thicken slightly with corn flour, put into a pie-dish, mix the meat with it, and cover all with a deep layer of potatoes mashed with milk till quite smooth and free from lumps. Bake in a brisk oven for fifteen or twenty minutes, and brown the top before the fire. For those who are partial to onions some fried or boiled and chopped onions may be mixed with the meat.

TOAD-IN-THE-HOLE.

The remains of beef or mutton too under-done to be agreeable eating as a cold dish can be converted into an excellent "Toad." Rub a rather deep pie-dish lightly with a cut clove of garlic; cut the meat into neat pieces. If a sheep's kidney or half a pound of beef kidney can be had,

* Rissoles cannot be made without eggs, as these serve to bind the material into a coherent mass.

free this from fat, cut it up, and add to the other meat. Put all into the pie-dish, season with black pepper and salt, and pour over all sufficient batter (made by allowing one egg to half a pint of milk, a tablespoonful of flour and a pinch of salt, all blended smoothly together) to cover entirely. Bake in a brisk oven from half to three-quarters of an hour, according to size.

CHAPTER VIII.

ECONOMICAL ENTRÉES AND SAVOURY MEAT DISHES.

ASPIC JELLY. A PRETTY ENTRÉE.

MAKE some jelly as directed for wine jelly at p. 192, but omit sugar, lemon, wine, and spices, and flavour it instead with onion or shalot, parsley, pepper and salt, boiled in the jelly, and tarragon vinegar added after the boiling. While this is still liquid, dip some pretty little shapes or moulds into cold water, place in them such things as shreds of the white part of lettuce, shrimps or prawns picked whole from the shell, whole oysters, shreds of hard-boiled egg, capers, peas, scraps of carrot, little bits of calf's head, chicken, fish, etc., or any such thing as convenience or taste may direct. Fill up with the liquid jelly, and when it is set turn out carefully, and serve garnished with sprigs of parsley, endive, etc. A little taste and practice will enable all sorts of odds and ends to be utilised in this way encased in aspic jelly. To produce a good effect the jelly must be made as clear as possible.

If preferred, some jelly can be made from the packet gelatine procurable at any grocers, making it according to directions on packet but flavouring as above, and clearing as directed for clear soup, p. 137.

BEEF HEART (STUFFED AND BAKED).

Tell the butcher to send the heart cleaned, ready for cooking; soak it in warm water for a couple of hours, put it into boiling water, and then *simmer* gently for two hours; place it on a dish, and when cool wipe it inside and out; stuff, either with a stuffing made according to that given at page 147 for baked haddock, or with "goose stuffing"—*i.e.*,

boiled potatoes mashed with plenty of chopped-up onions and pepper, or with "duck stuffing"—*i.e.*, sage, pepper, and onions finely chopped together. Sew up with needle and coarse thread, cover with clarified dripping, and bake in quick oven for two hours; baste frequently with the melted dripping. Serve, with brown gravy, very hot.

BEEF HEAD (*i.e.*, OX HEAD OR OX CHEEK).

This is a most economical dish for a large family. An ox's head can be bought from two shillings upwards, according to season, etc. The meat from it can also be bought by the pound, but it is more economical to buy it whole, as excellent stock for soup can be made from the bones, and fritters from the brains.

To cook the Head.

Let the butcher send it ready prepared for cooking. Wash it well and put it in a boiling pot with hot water to cover it completely, a tablespoonful of peppercorns, and a few cloves; boil gently till the bones can be drawn out (about three hours, or more if the head is very large). Lift the head on to a dish, pull out the bones and put them back in the liquor, and simmer this for half-an-hour more. Then strain and keep for stock. Cut the meat into neat pieces, removing the white, tough skin from the palate, make a thick gravy with some of the liquor, browning and thickening it, as at p. 125; add to it two tablespoonfuls of ketchup and one of vinegar; put in the meat, and serve very hot.

Note.—This can be re-heated as required.

BRAIN FRITTERS. (VERY DIGESTIBLE.)

Any kind of brain—ox, calf's, or sheep's—can be used for this dish. Steep the brain in lukewarm salt and water for two hours, changing the water if necessary; tie it in a piece of muslin, put it in hot water and simmer for twelve or fifteen minutes (or twenty minutes to half-an-hour if a large ox brain is used). Take up and leave to grow nearly cold, then slice (if the brain is large) in thick pieces, sprinkle

with a little pepper and salt, dip in flour and water batter, fry in nearly boiling fat, in a frying basket, till of a golden brown; drain, serve on a hot napkin with cut lemon and garnish of parsley.

BRAINS AND WHITE SAUCE.

Soak the brains, and steam in a covered basin for half-an-hour. Cover with sauce made by recipe, p. 182, flavoured with mushroom powder or with white button mushrooms stewed in it.

BRAINS, BROWN ENTRÉE.

Soak and steam the brains as above. Cut in neat pieces, put them in an entrée dish, and cover with a good brown sauce in which some fresh mushrooms or slices of truffle have been stewed, with seasoning of pepper and salt.

BRISKET OF BEEF STEWED WITH VEGETABLES.

Put a cupful of boiling water and a tablespoonful of vinegar into a saucepan with a closely-fitting lid, place a piece of brisket of beef weighing from four to six pounds on this, pack round it some carrots, scraped, onions and turnips peeled but not cut up, and a tablespoonful of peppercorns; put on a very slow fire and stew very gently for three hours and a half; then place meat and vegetables (which may now be cut up) on a hot dish, cover, brown and thicken gravy, boil up, and pour over dish.

CALF'S HEAD HASH (MOCK) MADE FROM CALF'S FEET.

This makes a very nice and economical entrée. Two calf's feet should not cost more than 1s. 4d. or 1s. 6d. Wash well, and soak for an hour or two before cooking. Boil the calf's feet in two quarts of water till the meat separates from the bone, about two, two and a half, to three hours, according to size; remove the bones and any bits of brown skin, etc., and set the meat aside till cold, then cut up into neat squares and heat in gravy made as

follows:—Take some of the liquor the feet were boiled in, stew for an hour with one onion, eight cloves, bunch of parsley and herbs (marjoram, thyme, etc.), strain, colour with a little meat extract, thicken slightly with corn flour, and add the juice of half a *small* lemon and a wineglassful of sherry or marsala. Serve very hot.

COW-HEEL AND ONIONS.

If not already boiled by the butcher, the foot will need, after being split, washed, and having the fat removed, seven or eight hours simmering. Can be partly cooked one day and finished the next. When the bones are loose, cover with onion sauce and serve.

Note.—Skim off the fat as it rises in boiling, and put it in a jar. It is excellent for rubbing stiff joints, etc.

COW-HEEL CUTLETS.

Take out all black or otherwise unsightly bits, from a cow-heel boiled as above, place the meat on a dish, put the bottom of another dish (see that it is quite clean) on the top of it, and on this dish place some heavy weights; when cold and firm cut the meat into neat cutlets, dip in whisked egg and fine bread crumbs with which has been mixed finely grated lemon-peel, pepper, salt, and some finely powdered herbs. Fry in boiling fat to a nice golden colour. Serve on a hot napkin with cut lemon and garnish of parsley.

Note.—The water in which cow-heel, calves' feet, or even pigs' feet (unsalted) have been boiled will make jelly, sweet or aspic. Pigs' feet jelly is very good, but can never be made quite as bright and clear, nor perhaps *quite* so delicately flavoured, as that from calves' feet.

EGGS À LA BECHAMEL.

Boil six eggs hard, take out of shells, cut them in two, place neatly in a dish, and cover with a white sauce (p. 182), flavoured by boiling in the milk a slice of ham, some mushrooms, a slice of eschalot (or rub of garlic on the ham), and pepper (white) and salt. The sauce

should be strained, but the mushrooms may be returned to it. There should be enough sauce to cover the eggs. Or they may be placed with the sauce in a baking dish covered with bread crumbs and bits of butter and baked a nice brown. Serve hot.

CURRIED EGGS.

Prepare curry sauce as already directed, thicken, boil some eggs hard, take them out of the shells, simmer them in the curry for two hours (they would go to pieces if simmered as long as meat requires), take each out in a spoon, cut it neatly in two, arrange in an entrée dish, cover with the sauce, and serve hot.

LAMB'S FRY, SERVED AS SWEETBREAD.

Take some large lamb's fry, wash in warm water, and parboil; place in a little milk and stew gently till tender, from fifteen to twenty minutes; make a good white sauce, as directed for eggs *à la* Bechamel, using plenty of white button mushrooms; place the stewed fry with the sauce and the mushrooms covering it in the middle of a dish with a border of potatoes mashed quite smooth with milk around it. Instead of mushrooms, young green peas may be used with equal advantage. This can be hardly, if at all, distinguished from the *much* more expensive veal sweetbread.

LAMB'S FRY CROQUETTES.

Prepare as for croquettes (p. 156), only use lamb's fry, boiled till tender, instead of other meat, and with it mix some chopped mushrooms, and if possible a truffle or two.

LAMB'S FRY (A BROWN ENTRÉE).

Wash and parboil, and then stew till tender some large lamb's fry. Make a good brown sauce with a little brown stock, in which is stewed plenty of button mushrooms and any game bones at hand, or bones of duck or fowl; strain, and thicken to consistency of cream with arrowroot, boiling this well so that it may not taste gritty or raw, and adding half a glass of sherry; return into this the mushrooms, and put in the lamb's fry and serve hot.

Note.—This makes a cheap and very effective entrée. Lamb's fry (sweetbread) is on an average about 1s. per pound, whereas veal sweetbreads are from 6s. to 8s. per pair, and the above makes quite as effective an entrée.

LIVER AND BACON.

Procure some calf's liver, have it cut in slices not too thin, dip each slice in flour and fry in the bacon fat which is left from frying the bacon (a slice of bacon should be allowed for each slice of liver); about eight minutes will fry it; dish the liver and bacon, cover, and make the gravy by draining off the fat from the pan and sprinkling in a tablespoonful of flour, rub it into the frying-pan with the back of a spoon, pour in a breakfast-cupful of water, pepper and salt, a squeeze of lemon juice, and if necessary a few drops of burnt sugar; boil up for five minutes, strain through a strainer over the liver and bacon, and serve hot.

MUTTON (STEWED).

(This is a delicious dish at a small cost.)

Take half a leg of mutton,* bone it, and stuff it with a mixture made of bread crumbs, suet or dripping chopped fine, parsley, herbs, a little onion, pepper and salt, or if mushrooms or oysters can be had these may be substituted for the herbs, parsley, and onion; bind it up with twine and put it into a stew-pan with a very little water and sliced carrots, onions, turnips, and peas; stew for an hour. Then lift out the meat on to a hot dish and keep it covered while thickening the gravy with a little corn flour, add a spoonful of red currant jelly, let it dissolve in the gravy, a spoonful or two of port or sherry, a spoonful of ketchup; when the gravy is cooked enough pour it round the meat and serve.

PARTRIDGES STEWED WITH CABBAGE.

(This is a good way of cooking old birds, too tough for roasting.)

Clean and cut the birds in two, well wash a head of cabbage and quarter it, lay it either in an earthenware

* Butchers will always sell half a leg of mutton, and will bone it if asked to do so.

cooking pot or in a deep pie-dish, place the birds upon it, with slices of fat bacon upon them, pour on them a tea-cupful of gravy (made with meat extract if no other is to be had), and pepper and salt. Put on the lid of the cooking pot, or if in a pie-dish invert another over it; see that it fits well, as the dish *must* be closely covered, and cook for two hours in a moderate oven, or, if in an earthenware pot, on the stove.

STEWED RABBIT.

Cut up a rabbit in joints, wipe and flour them, and fry them in clarified dripping till rather brown, put them into an earthenware cooking pot, or a stew-pan, with a pint and a half of stock, or liquor in which meat or haricot beans have been boiled, or failing this, water, one large onion, a couple of carrots, turnips, a stick of celery, or any other vegetables at hand, a spoonful of peppercorns, and salt. Stew for an hour and a half, take out the rabbit and vegetables, thicken with flour, stir and boil, then slice the vegetables and return them and the joints to the gravy, and serve with boiled pickled pork.

JUGGED RABBIT OR HARE.

Cut into joints, stew with pint and a half of brown gravy or water, onion and pepper, for an hour; take out the onion and joints, brown the gravy with burnt sugar, add a glass of sherry or port wine, a dessert-spoonful of red currant jelly dissolved in the gravy, slightly thicken with arrowroot; make ready some forcemeat balls made of the liver of the rabbit or hare pounded with bread crumbs, suet, fine herbs, and seasoning; boil them for a minute in the gravy, and pour all round the joints in a hot dish.

SHIN OF BEEF WITH ONION SAUCE.

This is a very economical and nutritious dish. Stew the shin of beef gently, allowing half-an-hour to the pound, put it on a hot dish, and cover with onion sauce.

SHEEP'S TROTTERS (STEWED).

These cost about eightpence a dozen, and are very delicate and digestible if subjected to several hours slow

boiling. Tell the butcher to send them ready for cooking, and *not to cut them short*, as if so they will be nearly all bone. Wash, put them into cold water, and boil till the bones are loose. Cover with parsley sauce.

STEAK EN SURPRISE.

Take a thick rump steak and with a very sharp and thin knife slit it nearly through, leaving sides and ends closed, so that it will form a bag, fill it with oysters seasoned with pepper, and cook as directed at p. 154. The open mouth must be sewn up with a needle and coarse thread, which must be drawn out carefully before serving.

STEAK À L'ÉPICURE.

Take two pounds of rump steak, spread it evenly with mashed chestnuts, roll up and tie, then lard it all over with little bits of fat bacon till it is like a porcupine, wrap lightly in a well-greased paper and bake for twenty minutes.

Note.—A larding-needle can be bought for threepence or fourpence; it opens at the end and takes in a little strip of fat bacon; the needle is drawn through the surface to be larded, in which the bacon remains sticking up straight.

STEAK À LA MARQUISE.

Beat a good, tender rump steak quite flat with a rolling-pin; make a forcemeat of fine bread crumbs squeezed out of milk and pounded with scrap bits of minced ham, bacon, or fat pork, a chopped onion (or instead of this the steak may be rubbed with garlic), a little grated lemon peel, parsley, herbs, mushrooms, tinned oysters, or truffles if they are to be had (the mushrooms cooked). Spread this smoothly over the steak, roll up so that no stuffing comes out (do not spread the stuffing up to the edges of the meat), bind firmly with twine, and put it into a deep pie-dish, pour over it a cupful of boiling water or stock, invert another pie-dish over it, and place in a moderate oven for three-quarters of an hour. It will cook in its own steam without burning. When done, take off the upper dish, rub a little butter over the meat, and dust with flour and place before the fire to brown, having first poured off the gravy, which slightly thicken and brown, a little more water or stock,

boiling, being added to it if there is not sufficient, also a little mushroom ketchup or Harvey sauce and red-currant jelly. Put the meat on a hot dish, remove the twine with sharp scissors, pour the gravy round, and serve. If the stock for gravy be made of the skin and bones, etc., of game or hare, this dish will be very good indeed.

STEWED STEAK.

(Beef Kidney can be stewed in the same way.)

Requisites.—One pound of beef-steak, two onions, two turnips, two carrots, a cupful of water or stock, a table-spoonful of ketchup or any sauce at hand, pepper and salt, clarified dripping, thickening.

Method.—The steak should be thick and without much fat; cut it into neat pieces and fry it on each side for two or three minutes in the dripping, just to brown it; the vegetables, pared and sliced, should then be fried in the pan after the meat, then put both meat and vegetables into a stew-pan *with a closely-fitting lid*, add the water or stock, and simmer very gently for two hours; then lift out the meat on to a hot dish, cover, skim the liquor if very greasy, add pepper, salt, and ketchup, and thicken; pour while boiling over the pieces of steak, and serve very hot.*

STEWED VEAL.

Put two pounds of veal cutlet into milk to cover it well, with a blade of mace, an onion stuck with cloves, and a teaspoonful of peppercorns. Stew gently for rather more than an hour, skim, strain. Thicken the milk when the meat is removed either with arrowroot, or if the dish is desired to be very good, with two eggs (these must not boil or they will curdle; put the milk and eggs into a jug as for a custard, stand in boiling water, and stir till thick). Add half a pint of boiled green peas, place on a dish and border with mashed potatoes.

TO PICKLE PORK.

See that the pork is very good and sweet, rub each piece

* Breast or "scrag" (i.e., throat part of neck) of mutton or lamb may be stewed in the same way. Peas may be substituted for the vegetables if desired.

thoroughly with plenty of coarse salt, lay them one on top of another in a glazed earthenware pan, with plenty of salt between each layer and on top, cover with a cloth, and on top of this put a piece of wood with a weight on it to keep the pork in the brine which will form from the melted salt; cover with a closely-fitting lid, as if the air gains entrance the pork will not keep well. If properly pickled it will keep good for eighteen months or two years. Some people use one part of saltpetre to two of salt; it makes the lean of the meat red, but is not really necessary. Pork should be salted on the same day that the pig is killed.

CHAPTER IX.

VEGETABLES.*

CUCUMBERS FRIED IN BATTER.

MAKE a batter either of flour and water or of milk, egg and flour, pare a fresh cucumber, slice about half an inch thick, sprinkle it with salt and let it drain for a few minutes; dust with pepper, dip in the batter, and fry in hot fat till brown and crisp; drain, and serve hot.

CARROTS, PICKLED.

(This is a good way for utilising cold carrots.)

Boil half a pint of vinegar for ten or twelve minutes with a teaspoonful of peppercorns, six whole allspice, a tiny blade of mace, half a teaspoonful of salt, and three lumps of sugar. Strain, and when cold pour it over the cold boiled carrots, which have been cut in rather thick slices and placed in a glass dish.

SPANISH ONIONS CURRIED.

Peel four Spanish onions, put them into boiling salted water and boil, uncovered, till tender. Press the water out by chopping them up in a colander, put them into an enamelled saucepan with a little milk, or butter, or cream, sprinkle a tablespoonful of curry powder over them, boil for five minutes. Serve very hot.

VEGETABLE FRITTERS.

Requisites.—Any cold vegetables, one egg, salt, pepper,

* Vegetables are chiefly valuable on account of the potash and other salts which they contain.

bit of butter the size of a walnut, a tablespoonful of flour, milk, bread crumbs.

Method.—Mash the vegetables, taking out any hard bits of stalk, whisk the egg and mix it with the other ingredients, add just enough milk to make all into a smooth mass; form into little flat cakes or small rolls, dip into flour and water batter, then into fine bread crumbs, and fry crisply in clarified dripping. Serve either as a vegetable with meat or as a vegetable course. A little finely chopped parsley may be mixed with the bread crumbs at discretion.

HARICOT BEAN SALAD.

(Excellent with cold meat when fresh salad cannot be had.)

Boil a pint of small haricot beans, soaked in water the previous night, till quite tender, but not mashed. Let them get cold, put them into a salad bowl with two tablespoonfuls of chopped cold boiled beetroot, a tablespoonful of well washed, finely chopped parsley, a stick or two of the tender inside of a head of celery, and any cold carrot or tomato that may be at hand, cut small. Pour over all two or three tablespoonfuls of salad oil, a tablespoonful of tarragon and one of plain vinegar, pepper and salt, and mix well. *If the salad bowl be previously rubbed with a cut clove of garlic, this salad will be greatly improved.* At discretion all sorts of additions may be made to this dish. French mustard and cream or milk, with a pinch of castor sugar, may be added to the oil; hard-boiled eggs cut up would also be an improvement, so too would cold potatoes—in fact any kind of cold vegetables may be added to it. This makes a very substantial addition to a luncheon or supper table, and helps to save the consumption of meat.

HARICOT BEANS (SAVOURY).

(Very nutritious and cheap.)

Soak a quart of dried haricots in cold water for twenty-four hours. If possible, soak them in soft water, or if only hard water is to be had, put a bit of soda the size of a pea into the water. Put them into a saucepan with two quarts

of cold water and a teaspoonful of salt, simmer till tender; this will take from two to three hours. Put a little dripping and two sliced onions into a frying-pan and fry for five minutes, then put in as much of the haricots as will be required (the quantity given above makes a large dishful; if not all wanted they will keep till next day), and sprinkle over them salt and black pepper and fry crisply till a golden brown, and serve hot. Chopped parsley may be sprinkled over the beans with the pepper and salt.

To vary the above.

Fry the soaked beans with slices of bacon, or bacon and tomato, instead of onion, or, omitting the onion, add chopped parsley, or omit the frying and cover the beans after boiling with onion sauce or parsley sauce. Serve them how you will, haricot beans are an excellent, nourishing, flesh-forming dish, and very cheap.

KAIL KANON.

Mash equal quantities of any cold greens and cold potatoes together very smoothly, with a very little dripping and a seasoning of salt. Put this into an iron saucepan and stir with a wooden spoon till very hot. Pile neatly on a hot dish, and serve as hot as possible.

POTATO LOAF.

Mash cold potatoes and a little dripping very smoothly, season well with black pepper and salt. Make into a pyramid on a plate, and score the sides of the "loaf" with the back of a fork. Stick little bits of dripping over it, and bake in a rather brisk oven till the surface is quite brown and crisp. This makes an agreeable change from the monotony of the plainly boiled potato, and is also an economical way of using up cold potatoes.

VEGETABLE PIE.

Take any kind of cold cooked vegetables. Chop and mix all together, season with pepper and salt. If there are any bits of cold bacon in the larder, add them; pour over

all a cup of any sort of stock, gravy, or soup that the larder will afford, and cover the dish with a layer of potatoes mashed very smoothly with plenty of milk. Bake till the potato cover is quite crisp and nicely browned. This will make a very good dinner where strict economy is necessary, and is very appetising and wholesome.

RED CABBAGE PICKLED.

Requisites.—A fine hard head of red cabbage, one quart of vinegar, tablespoonful of peppercorns, teaspoonful of whole allspice, one small sprig of whole ginger, salt.

Method.—Strip the rough outer leaves from the cabbage, cut it in two and take out the hard stalk, slice the cabbage thinly and place it on a large dish, sprinkle it well with salt, and tilt the dish so that the water may drain away. Leave it to drain thus for twenty-four hours, shaking and turning the cabbage occasionally. Boil the vinegar and spices for a quarter of an hour, let them grow cold; when the cabbage is drained put it into jars, pressing it down, and cover with the vinegar and spices. Capsicum pods and mustard seed may be added to the spices if desired.

CHAPTER X.

SAUCES AND SALAD DRESSINGS.

APPLE SAUCE.

(To serve with Roast Goose or Pork.)

PARE four or six apples, slice, leaving out the core and pips, put into a saucepan with a tablespoonful or two of water, one lump of sugar, and a bit of butter the size of a walnut. Simmer over the fire, stirring occasionally till the sauce is quite smooth. Serve hot.

Apple sauce must not be *sweet*; the acid is intended as a corrective to the richness of the goose or pork.

BREAD SAUCE.

(To serve with Roast Fowl, Pheasant, etc.)

Put a breakfast-cupful of bread crumbs into a small saucepan, add a teaspoonful of peppercorns, half a teaspoonful of salt, a blade of mace, and just enough milk to cover the whole. Simmer till smooth, stirring well to keep it from burning.

Note.—Most cookery books direct that onion should be put into bread sauce; this is a great mistake, as the flavour would be disagreeable to many people, and is not suited to go with the delicate flavour of chicken, turkey, and pheasant, with which bread sauce is principally served.

ECONOMICAL MAYONAISE SAUCE FOR BOTTLING.

Requisites.—One pint of milk, one tablespoonful of flour, one wineglassful of vinegar, or, better still, tarragon and plain vinegar mixed in equal quantities, two raw eggs, four ounces of butter, one tablespoonful of mustard.

Method.—Put the flour into a small basin and add to it two tablespoonfuls of cold milk taken from the pint, blend this together with the back of a spoon until it is absolutely free from lumps and quite smooth, put the rest of the milk into a clean enamelled saucepan, and when it simmers pour in the flour and milk mixture and the butter and boil for fully five minutes, stirring well and taking care it does not get the least burnt, and while still hot, but *not* boiling, stir thoroughly in the eggs, which must be carefully cleared of the gelatinous thread which clings to the yolk, and well whisked, the mustard, and lastly when nearly cold, the vinegar. When quite cold bottle and cork well. It will keep for a long time if well corked, and is a delicious accompaniment to cold meat, fish, salad, hard-boiled eggs, or any other dish which requires mayonaise sauce.

Note.—A few drops of chilli vinegar may be added if hot condiments are liked, and to some tastes the addition of a little finely chopped onion when the sauce is used (not bottled with it) would be considered an improvement, or the vinegar taken from a jar of pickled onions may be used instead of plain vinegar.

GRAVY FOR ROAST OR BAKED MEAT.

Take the dripping-pan in or over which the joint has been cooked, pour off nearly all the fat, doing it *very* gently so as not to disturb the sediment, pour in a cupful of boiling water, a good pinch of salt, and if wanted thickened, a spoonful of flour; place the pan on edge of fire, and stir the gravy well while boiling for three minutes. *Pour round the meat, never over it.*

HORSE-RADISH SAUCE.

Requisites.—Three tablespoonfuls of finely scraped horse-radish, two tablespoonfuls of cream or milk, two or three tablespoonfuls of vinegar, one large teaspoonful of castor sugar, a small teaspoonful of salt, half a teaspoonful of black or white pepper, two teaspoonfuls of French, or one of English, mustard.

Method.—Mix all the ingredients thoroughly, make an hour or so before wanted, and serve hot or cold in a sauce-

boat. If required hot, put the sauce in a jar, which stand in a saucepan of boiling water till the sauce is hot. It must not boil.

MAYONAISE SAUCE (GOOD).

Put the yolks of two eggs in a basin, carefully remove the gelatinous string, have ready a teacupful of salad oil and a teacup three parts full of equal quantities of tarragon vinegar and plain vinegar mixed, put a tablespoonful of thick cream, two teaspoonfuls of castor sugar, half a teaspoonful of salt, a teaspoonful of French mustard, and a sprinkling of white pepper upon the egg yolks; then take a dropper (the dropper used for filling a stylograph pen is just the right kind) and drop upon the egg first a few drops of oil, then a few drops of vinegar, and all the time keep stirring with the other hand, or rather *blending* the whole, with the back of a wooden spoon, until it is all thoroughly incorporated and quite smooth. If a tablespoonful or two of white jelly (such as remains from the water in which a knuckle of veal, calves' feet, etc., have been boiled) is at hand, it may be substituted for, or used in addition to, the cream, rubbing it well in. The secret of making good mayonaise sauce is to drop the oil and vinegar alternately, and gradually to blend well so that the sauce may not curdle. The mayonaise may be coloured green with spinach or parsley juice* (the former is best, as it has not so much flavour), or pink with beet juice.

MINT SAUCE.

(To serve with Roast Lamb.)

Requisites.—Two tablespoonfuls of finely chopped mint, half a breakfast-cupful of vinegar, a dessert-spoonful of sugar, one teaspoonful of salt, half a teaspoonful of black or white pepper.

Method of Making.—Pick off the tenderest leaves of the mint, and do not use the large hard outside ones (these need not be wasted by people who have to buy

* Cook some spinach with only the water that adheres to it after washing. When tender squeeze in a piece of muslin and a strong green juice will be expressed.

mint, they can be dried and kept in a well-corked bottle, or can, with the stalks, be used for boiling with new potatoes or peas, both of which are greatly improved by being cooked with this addition), wash them well in two waters, dry between two folds of a clean cloth, chop fine, and put into a sauce tureen with the other ingredients. Mix well until the sugar is melted. This is best made a few hours before it is required, so that the flavour of the mint may thoroughly permeate the vinegar.

Note.—Mint sauce is always served cold.

MUSTARD SAUCE.

Fry one ounce of butter and the same of flour till browned well, add a breakfast-cupful of any kind of stock, a teaspoonful of tarragon vinegar, and either a dessert-spoonful of English mustard, or better still, English and French mustard mixed; stir well, simmer for a minute or two, and serve.

SWEET PUDDING SAUCES.

An excellent sauce for puddings, which can be flavoured in any way to suit the pudding with which it is served, can be made by pouring half a pint of boiling water upon one tablespoonful of Swiss milk; add a teaspoonful of corn flour or arrowroot blended smooth in a little cold water or milk, and boil till it thickens. To this may be added rum or brandy for plum-pudding sauce, wine for sauce for suet or rice puddings, or a spoonful of currant jelly, or essence of vanilla, almonds, ratifia, or a cup of coffee or chocolate, or any kind of flavouring that convenience or fancy dictates. The remnants of jam in pots, too little to be used in any other way, may be utilised by rinsing the pot with a little hot water and adding it to this sauce. The Swiss milk will be found to give a richness to the sauce quite different from that of ordinary milk and sugar. Nutmeg, cinnamon, mixed spice, chopped almonds may all be added to the sauce at discretion. A very agreeable sauce for plain batter pudding can be made by melting some apricot jam and serving it in a sauce-boat or poured over the pudding.

WHITE SAUCE.

(With this as a foundation all kinds of sauces can be made.)

Put a pint of milk into an enamelled saucepan to boil, blend smoothly a tablespoonful of corn flour in a little cold milk or water. When the milk comes near boiling add the blended corn flour and stir till it thickens. It must be boiled till the raw taste of the flour disappears. Plain flour can be used instead of corn flour, but it has not so delicate a flavour. This sauce, without the addition of butter, is quite nice for vegetables, fish, etc., but of course a piece of butter will improve it. It is capable of endless additions and improvements. Chopped hard-boiled eggs or anchovy sauce will convert it into fish sauce, or it may be mixed with Worcestershire or Harvey sauce or ketchup for the same purpose. The addition to it of boiled celery or onions, or parsley cut up and boiled in a little water, will make the sauce of each kind. Button mushrooms stewed in the milk will make it into mushroom sauce. Capers stewed in it will make caper sauce, or for this sauce some of the water that mutton is boiled in may with advantage be substituted for half the milk. A slice of ham simmered in the sauce, with a blade of mace and pepper and salt, will convert it into an excellent savoury white sauce.

QUICKLY MADE MAYONAISE SALAD DRESSING.*

Requisites.—One egg, three tablespoonfuls of milk, two tablespoonfuls of vinegar, heaped teaspoonful of castor sugar, half a teaspoonful of salt, dust of pepper.

Method.—Well whisk the egg, first carefully removing the gelatinous thread, add the milk, sugar, salt, and pepper. Stir thoroughly well, then place the breakfast-cup containing the mixture in a small saucepan of boiling water, letting the water only come about half-way up the cup, stir constantly while the water boils round the cup until the mixture thickens as a custard does (in stirring let the spoon touch the bottom of the cup), take it up, and when cool stir in the vinegar; place in a cold place to get quite cold before

* An old Spanish saying runs thus—"Be a miser with vinegar, a councillor with salt, and a spendthrift with oil, in salad dressing."

use. It will be thicker when cold than while hot. It must not be kept too long on the fire or it may boil in the cup, and if it does it will curdle. If tarragon vinegar can be had it will be found a great improvement used half and half with ordinary vinegar. This quantity is enough for a dish of salad for four or five persons.

CHAPTER XI.

HOME-MADE BREAD—PASTRY—SWEETS—CAKES.

HOME-MADE BREAD.

Requisites.—Seven pounds of flour, two ounces of German yeast, half an ounce of fine salt, water, or milk and water. (The German yeast can be bought at a grocer's. It should be fresh.)

Method.—Thoroughly mix the salt with the flour, dissolve the yeast in a teacupful of warm water, make a hollow in the middle of the flour, and add *very gradually* the barm (*i.e.*, the yeast dissolved in water), and just enough extra warm water (never *cold* or *hot*) to make a firm dough. Then knead, *with the doubled-up fists*, for fully fifteen minutes, doing it thoroughly. When the dough has been sufficiently kneaded none of it will stick to the hands, then cover the basin with a warmed cloth, and stand it near the fire for an hour, when it will have risen and show cracks on the top, then knead it up again thoroughly and make into loaves, or fill tin shapes three parts full of the dough.

The difference between baking in a tin or without is, that when baked in tins the bread is not so crusty as when baked without. The loaves or tins *must* be put into an oven that is sufficiently hot, or they will not rise properly; on this point the success of the baking will principally depend. If the oven is not hot enough at first the bread will surely be heavy. The proper temperature of the oven for baking bread is 410° Fahr. In bakeries the ovens have thermometers for registering the heat and preventing failure in this respect, but we can't expect such things in ordinary households; but a simple test will show the state of the oven. Place a slice of stale bread in the oven; if the

oven is at the right temperature for bread-baking, this will turn golden brown in three minutes; or shake some flour on the oven shelf, and if it becomes brown in a minute, the dough may be put in. Far less damage to the bread will be done by putting dough into an oven that is too hot than too cool—you can scrape off burnt crust, but nothing can make a heavy loaf light after bad baking.

Bread made with milk instead of water is very nice for afternoon tea.

All sorts of additions and alterations can be made to the loaves to suit different tastes. Currants (they should first be well washed and *well dried*) and sugar will make a nice plain cake; sultanas and large raisins will make a plum loaf; sugar and seeds will convert it into a seed loaf; or the loaves may be simply sweetened and brushed with whisked yolk of egg before baking. All these additions are very useful for furnishing the nursery or school-room tea-table with an interesting variety at small cost, and without danger to digestion.

RECIPES FOR BAKING-POWDER.

1. Equal parts of bicarbonate of soda, tartaric acid, fine flour. Sift all together two or three times, so that the ingredients may be thoroughly incorporated.

2. Equal parts of carbonate of soda, tartaric acid, and rice flour. Sift, and mix thoroughly.

3. Two ounces of bicarbonate of soda, one ounce of tartaric acid, one ounce of citric acid. Mix as above.

Baking-powder made at home by any of these recipes is much cheaper than if bought in packets, and is more reliable, as common baking-powder made by unknown makers may contain injurious ingredients.

SHORT CRUST FOR FRUIT PIES AND TARTS.

Requisites.—Half a pound of flour, six ounces of butter, half a teaspoonful of baking-powder, quarter of a teaspoonful of salt, milk or water. (Some people add one ounce of castor sugar.)

Method.—Mix the baking-powder and salt thoroughly

with the flour, then put in the butter and rub it well into the flour till it disappears as butter and the whole is well mixed. Add enough milk or water to make it into a stiff paste and roll out.

Note.—What is by courtesy called “cooking butter,” but is really margarine, at 6d. or 8d. a pound, makes very good short crust.

PUFF PASTE.

(For Oyster Patties, Puffs, etc.)

Requisites.—Eight ounces of flour, four ounces of butter, four ounces of lard, juice of half a lemon, pinch of salt, water.

Method.—Put the flour into a basin, rub the salt through it and see that it is quite free from lumps. Mix it into a paste of about the firmness of ordinary butter with the water and lemon juice, lay this on the pastry board, which should be slightly floured, and roll it out to about half an inch thick, spread over it small bits of butter and lard each at a little distance from the other, double the paste in two and roll out again, and spread over it more bits of butter and lard, double and roll again; do this till the butter and lard is finished, then roll out to about a third of an inch in thickness. Make puff paste in a cool place if possible, not in a hot kitchen. Good authorities recommend that it should be made on a marble slab, but few housekeepers possess such a luxury. Puff paste must be placed in a brisk oven or it will not rise properly.

SUET CRUST FOR BOILED PUDDINGS.

To make a rich suet crust equal parts of flour and suet, weighed after it has been freed from skin, may be used, but this is too rich for many people, and three-quarters of a pound of suet to one pound of flour, or half a pound of suet to one pound of flour, will usually be found rich enough. The suet should be finely chopped, and half a teaspoonful of salt be mixed with it. If a light, crumbly crust is desired, mix one heaped teaspoonful of baking-powder to the pound of flour, then mix the flour and suet thoroughly, and make

into a rather stiff paste with milk or water (milk makes a better crust). If the paste be made too wet the crust will be heavy. Some people add the juice of half or a whole lemon when the paste is mixed with water, but it is not necessary, though it may be used if at hand. Beef suet makes *infinitely* better suet crust than mutton suet, which should never be used unless no other is to be had.

ALMOND CREAM.

Requisites.—Six sheets of gelatine, one pint of milk, two eggs, essence of almonds, sugar.

Method.—Take three tablespoonfuls of the milk, warm it, break up the gelatine and put it in to dissolve. Make a custard of the remainder of the milk in the following way. Put the milk into a jug, add to it the eggs (carefully cleared of the “strings”) well whisked, sugar and almond flavouring to taste, stand this into a saucepan of boiling water and let the water boil round the jug while stirring its contents (with a spoon that reaches to the bottom of the jug) till they thicken; *it must on no account boil, or the custard will curdle.* When it thickens add the dissolved gelatine, stir thoroughly for a minute or two, and pour into a mould which has been rinsed in cold water.

CHESTNUT SNOW (COLD).

Boil some chestnuts till quite tender (about half-an-hour), take off the shells and skins while still hot, mash the chestnuts through a potato masher, and pile into a pretty heap; hollow out the centre and fill with whipped cream, which may be coloured pink, if desired, with a few drops of cochineal, or the cream may be sprinkled with coloured “hundreds and thousands.” (This makes a very pretty supper dish at small cost, as a sixpenny jar of cream will do for a small dish.)

CHOCOLATE CREAM.

Make as for almond cream, but grate two ounces of chocolate finely, dissolve it in a little of the milk warmed and add it to the custard.

COFFEE CREAM.

Make as directed for almond cream, only use equal parts of strong coffee and milk for making the custard, and omit almond essence.

DEVONSHIRE JUNKET.

Make a pint of milk lukewarm, add sugar to taste, a flavouring of vanilla or almond essence, and one or two tablespoonfuls of rum, or brandy, or sherry, or marsala (a tablespoonful of rum or brandy to one of wine makes a good mixture), add a dessert-spoonful of rennet and stand in a rather warm place for twenty minutes, dust powdered cinnamon over the top, and pour some thick cream over it. Make in the dish in which it is to be served.

FLORA'S FRITTERS.

(An old country-house recipe.)

Take an old-fashioned cabbage rose (the petals are more fleshy than the newer varieties), pick off the petals (rejecting any withered ones) and dip them in a batter made of one-third of a pint of milk, one or two eggs whisked, flour to make it as thick as double cream, with sugar to sweeten it. Dip each petal singly, taking them up on a pointed stick or with a pair of sugar-tongs, and throw them into very hot clarified dripping. Fry for a minute, drain on blotting-paper before the fire, and serve piled on a white napkin dusted with castor or crystallised sugar. Apples, or bananas, or oranges can be made into fritters in the same way by paring, slicing, removing seeds and cores, and dipping in batter. Tinned peaches or apricots also make good fritters. Flour and water batter can be used when strict economy is desired.

GINGER CAKE (PLAIN).

Requisites.—One and a half pounds of flour, or three-quarters of a pound of flour and three-quarters of a pound of ground rice, four ounces of clarified dripping, two ounces of lard, two eggs, sugar, heaped teaspoonful of baking-powder, dessert-spoonful of ground ginger, pinch of salt, milk.

Method.—Mix the ginger, baking-powder, salt, and sugar (to taste) with the flour till they are thoroughly incorporated. Shred the dripping and lard *very* fine and rub them thoroughly through the flour, then add the eggs whisked, and as much milk as will make the whole into a spongy (but not wet) dough. Put into a greased tin and bake in a brisk oven for nearly an hour. This recipe may be altered by omitting the ginger and adding four ounces of currants, two ounces of shred candied peel, half an ounce of mixed spice, and instead of the eggs a teaspoonful of bicarbonate of soda.

GINGER TEA.

(An excellent winter drink and “pick-me-up.”)

Put half a teaspoonful of ground ginger, two lumps of sugar, and a tablespoonful of lime juice (or lemon juice if preferred) into a tumbler, and fill up with water as hot as the glass will bear without breaking, stir well.

GOOSEBERRY FOOL.

Requisites.—One quart of green gooseberries, quarter of a pint of water, half a pound of sugar, one small tin of Swiss milk.

Method.—Top and tail the gooseberries and put them in an enamelled saucepan with the sugar and water, simmer till quite tender, mash to a pulp and work through a wire sieve or colander, when cold mix thoroughly with the Swiss milk, and serve in a glass dish or in custard glasses. This will be found an excellent gooseberry fool, as good as if cream were used, but at much less cost. Swiss milk for the purpose can be bought at about 2½d. per tin. Apples, currants, or any kind of fruit can be prepared in the same way.

ORANGE BLANC MANGE.

Requisites.—Two tablespoonfuls of corn flour, half a pint of cold water, six ounces of lump sugar, strained juice of six oranges and one lemon.

Method.—Blend the corn flour smoothly with the water, wipe the lemon and rub the yellow of the rind with the

sugar, strain the juice of oranges and lemon, and put all together into a saucepan and boil, stirring well, for seven or eight minutes. Pour into a mould, previously wet with cold water, and turn out when set.

PLUM TART (FRENCH METHOD).

Put the plums into a saucepan, with water to cover them, and sugar in the proportion of half a pound to a pound of plums (rather more if the plums are *very* sour), simmer till the plums are quite tender, but do not let them become at all mashed, then take them up, drain off the liquor, put the plums on a dish, and return the liquor to the saucepan with half a pound more sugar to the pint, and boil till it is a thick syrup. Have a flat dish covered with short crust (p. 185) baked, but allowed to brown as little as possible. Divide each plum and take out the stones, spread the plums over the crust (it should have a slightly raised border round the dish), and pour on them the thick syrup; pour it on slowly so that it may have time to sink in and not overflow. Put into the oven for ten minutes and serve.

PRUNE MOULD.

Requisites.—One pound of prunes, five tablespoonfuls of claret (cheap claret at one shilling a bottle does very well), six tablespoonfuls of water, two ounces of castor sugar, half an ounce of gelatine.

Method.—Stew the prunes in the water till tender (if the prunes are hard they will need nearly two hours stewing and rather more than the above quantity of water, but the best bottled prunes are tender, and are the most suitable for this dish, but they are more expensive. If the cheaper kind of prunes are used, wash them well before stewing), take out the stones, add the claret, sugar, and gelatine dissolved in just enough water to cover it. Pour into a border mould which has a space in the middle—the mould should first be dipped in water. Turn out when cold, and fill centre with custard or whipped cream, and if desired garnish with blanched almonds cut in spikes, or glacé cherries.

RICE (WITH STEWED FRUIT).

(To have the same effect as cream.)

It is a very great mistake to wash rice before cooking it, *unless* the rice is boiled to serve with curry, and yet it is a mistake that most cookery books lead their readers into. Here are the directions given in one well-known book:—"Before rice is cooked always wash it thoroughly with cold water. Wash until the last water used is perfectly clear and not milky." By this time you have washed all the valuable creamy part out of your rice, and have emptied down the sink a great deal of the nutriment that would have gone to make the dish rich and creamy. No, this is decidedly *wrong* advice, and it is only necessary to try rice boiled in milk *without* washing to prove how different it is from rice washed "till the last water is perfectly clear." Rice bought from a respectable grocer is quite clean and no more needs washing than our *tea* needs it. It may be picked over, to remove any black seeds, but it *should not be washed*.

Put a small breakfast-cupful (not heaped) of rice into a quart of new milk (not milk and water), boil *gently* for half-an-hour, stirring occasionally so that it shall not burn, and stand aside to grow cold. Serve with any kind of stewed fruit, and it will have as good an effect as cream, but is much more likely to agree with most people, as cream, unless in small quantities, is very indigestible. The best rice should be used; it only costs about a penny a pound more, and is really cheaper than inferior rice. This dish is extremely nutritious.

THOMAS'S TEA-CAKES.

A breakfast-cup of flour, half a teaspoonful of baking powder, pinch of salt, butter the size of a walnut rubbed into flour, milk to make a stiff paste; roll to half an inch thick, cut out with top of tumbler, and bake in brisk oven for fifteen minutes.

WINE JELLY.

Requisites.—One quart of jelly from calves' or pigs' feet, or cow-heel (see p. 167), two lemons, whisked whites and

crushed shells of two eggs, half a pound of loaf sugar, three-quarters of a pint of wine (marsala, sherry, port, or champagne), eighteen cloves, two inches of stick cinnamon.

Method.—Skim all fat from the jelly, put it with all the ingredients but the wine into a saucepan, stir well together, then place it on the fire, simmer for fifteen minutes, gently taking scum off as it rises, *but the pan must not be shaken*, dash in a wineglass of cold water, boil five minutes more, *very* gently draw pan to side of fire, cover with a cloth and let it stand *without* boiling for half-an-hour, then add the wine. Wring a jelly-bag out of boiling water, sling it between two chairs before the fire, with a pan under, and pour the contents of saucepan into it. If the jelly is not clear run it several times through the bag until it is clear.

A little gelatine will make the jelly stiffer if necessary. It must be dissolved and added to the other ingredients.

CHAPTER XII.

PUDDINGS IN WHICH BROKEN BREAD CAN BE USED.

BREAD AND BUTTER PUDDING.

Requisites.—Slices of bread and butter, jam of any kind, or sultanas or currants, sugar, nutmeg, custard.

Method.—Grease a pie-dish, put a layer of bread and butter slices in the bottom, spread over them any kind of jam or marmalade, or any kind of stewed fruit, and a sprinkle of sugar; proceed in like manner till the dish is full, then pour over all a custard that will quite fill the dish, grate nutmeg over the top, and bake from half to three-quarters of an hour.

This pudding may be made very rich or the reverse, by using more or less butter, fruit, or preserve, and by making the custard very rich with plenty of eggs, or very plain by using custard powder or only one egg and a little milk to make it.

CANARY PUDDING.

Requisites.—One pound of fine bread crumbs, ten ounces of suet or clarified dripping, a teacupful of marmalade, the juice and grated rind of a small lemon, a teacupful of moist sugar, one egg, a small teaspoonful of bicarbonate of soda, half a teaspoonful of salt.

Method.—Mix the bicarbonate of soda thoroughly with the bread crumbs and the salt with the suet, which should be chopped very fine. Mix all the ingredients well together, put into a greased basin, over which some more moist sugar has been shaken, cover with a greased paper twisted over top and steam an hour and a half to two hours.

CUP PUDDING.

Requisites.—A breakfast-cupful of fine bread crumbs, ditto of flour, ditto of finely chopped suet, a teacupful of currants or sultanas, or both mixed, ditto of treacle,* ditto of milk (Swiss milk diluted with boiling water is even better than ordinary milk), ditto of moist sugar, half a teaspoonful of bicarbonate of soda. Mix well.

Method.—Grease a basin, put in the mixture, and steam for three hours, taking care that the top of the basin is well covered with a greased paper twisted over it or a floured cloth. At discretion, grated lemon peel, mixed spice or ginger, may be added, or marmalade substituted for the treacle.

DIGESTIBLE ROLLY-POLY.

Requisites.—One breakfast-cupful of fine bread crumbs, ditto of flour, ditto of finely chopped suet, a small teaspoonful of baking-powder, pinch of salt, milk, jam.

Method.—Mix the baking-powder and salt with the flour, add the bread crumbs and mix thoroughly, moisten with enough milk to make a firm paste, roll out to half an inch thickness, spread with jam (apricot or raspberry if possible), roll up neatly. Dip a stout pudding-cloth in boiling water, strew thickly with flour, put the pudding in this and roll the cloth round it; tie ends firmly, but leave a little room for pudding to swell; plunge into fast boiling water and boil for three-quarters of an hour, or may be steamed the same time. This will be a small pudding, increase quantities to make a larger one, and boil it for a longer time.

Note.—Any kind of suet-pudding may be made with bread crumbs and flour, if the crumbs be rubbed fine, and it will be found much more digestible than if made of suet and flour only. Many people who cannot eat suet-puddings made in the ordinary way can digest them quite well when made with the addition of bread crumbs.

GINGER PUDDING.

Requisites.—Half a pound of flour, half a pound of brown or white bread crumbs, half a pound of beef suet, half a

* Warm the treacle if too stiff.

pound of moist sugar, half a pound of treacle or golden syrup, the juice and grated rind of one lemon, quarter of an ounce of ground ginger, pinch of salt, teaspoonful of baking-powder, milk.

Method.—Mix the baking-powder, ginger, sugar, salt, and flour thoroughly together, then add the suet, which must be weighed after divesting it of all skin (if suet is not available clarified dripping may be used instead, finely broken up), and the bread crumbs and grated lemon rind. Moisten all with the treacle and lemon juice and just enough milk to make a stiff mass, put it into a greased mould or basin, cover with greased paper or floured pudding-cloth, and boil or steam for an hour and a half. Serve with sweet sauce. More ginger may be added by those who like the flavour very pronounced.

GOLDEN PUDDING.

Requisites.—Six ounces of fine bread crumbs, six ounces of suet, half a pound of moist sugar, the juice and pulp (excluding the white pith) of a large orange, and the juice and grated rind of a lemon.

Method.—Mix all well together; if the orange and lemon are not sufficiently juicy to make the mass adhere, add the juice of another orange. Fill a greased mould or basin, cover with cloth or greased paper (or lid, if a tin pudding mould is used), and steam for an hour and a half. Serve with sauce as at p. 181, with orange or lemon juice mixed with it.

MACARONI CHEESE.

Requisites.—Half a pound of macaroni, four ounces of butter, four to six ounces of grated cheese (any kind will do—this is a good way of using up dried bits of cheese), bread crumbs, pepper, salt.

Method.—Boil the macaroni in salted water till quite tender. The pipe macaroni will take about one and a half hours, the smaller kind not so long. Grease a pie-dish and put a layer of macaroni in the bottom, then a layer of grated cheese, then a thin layer of bread crumbs, with bits of butter broken up over them, then another layer of macaroni, cheese, crumbs, and butter. This top layer of

crumbs should be thicker than the lower layer, and more butter should be put through it. Place in a Dutch oven before the fire till thoroughly browned.

POOR CURATE'S PUDDING.

Requisites.—Rhubarb or gooseberries, moist sugar, broken-up bread, butter; lemon peel and juice, optional.

Method.—Grease a pie-dish, put a layer of rhubarb, having wiped the stalks and cut them into small pieces, into the bottom, strew this thickly with moist sugar, and, if desired, some strips of yellow lemon rind and a few drops of juice, and over it strew a thick layer of bits of broken-up bread and scraps of butter; continue like this till the dish is full, spreading on the top a thick layer of sugar and some bits of butter. Bake for an hour and a half, and then stand in front of the fire to brown. A nice caramel will be formed by the sugar and butter on the top. A small pudding of this kind can be baked in a Dutch oven before the fire. Slices of bread and butter may be used instead of bread scraps, if preferred. Top and tail gooseberries if they are used instead of rhubarb.

QUEEN ALICE'S PUDDING.

Requisites.—One pint of fine bread crumbs, one quart of milk, two eggs, apricot or strawberry jam, teacupful of castor sugar.

Method.—Mix the milk, bread crumbs, sugar, and whisked yolks of eggs, and beat them quite smooth; put them into a pie-dish and bake in a rather slow oven for fully half-an-hour, then spread a layer of preserves over the top, and upon this the whites of the eggs whisked with a tablespoonful of castor sugar till quite stiff, brown in the oven for ten minutes or before fire.

SAFFRON PUDDING.

Requisites.—One quart of milk, three-quarters of a pound of bread crumbs, two eggs, four ounces of butter, four ounces of sugar, a glass of marsala, quarter of a teaspoonful of grated nutmeg, and a good pinch of saffron.

Method.—Boil the saffron in the milk for five minutes, stir

in the bread crumbs, whisked eggs, butter, sugar, marsala (a tablespoonful of brandy may be substituted for this at discretion), and nutmeg; beat all thoroughly together, pour into a buttered basin, and steam for half-an-hour, or may be baked in a pie-dish for three-quarters of an hour.

ZEBRA PUDDING.

Requisites.—Bread crumbs, jam, custard made with custard powder, or an egg or two.

Method.—Butter a basin, shake crumbs all over it, then put a thick layer of fine crumbs in the bottom, then a layer of any kind of jam, then more crumbs, and so on in layers till the basin is full. Over all pour a custard just sufficient to slightly moisten the whole; one egg to half a pint of milk (or Swiss milk) will be rich enough, or custard powder may be used. Cover with buttered paper, steam for three-quarters of an hour. Different sorts of jam or marmalade may be used. This is a good way for using up remnants of jams.

Note.—To prevent pudding-cloths sticking to the bottoms of saucepans and burning, it is only necessary to put a plate into the saucepan under the pudding.

CHAPTER XIII.

ECONOMICAL SAVOURIES.

TOMATOES AUX CREME (COLD).

CUT in halves some medium-sized tomatoes and scoop out the greater part of the insides, whip up some cream with salt, pepper, and the insides of the tomatoes and a little grated cheese, fill the tomatoes with the mixture, and place each on a cheese biscuit. To be served cold. (Recipe for cheese biscuits, p. 200.)

SARDINES AUX CROUTES.

Rub a cut clove of garlic lightly on a frying-pan, pour the oil from a freshly-opened box of sardines into the pan, dust in a little cayenne, and when the oil is very hot put in the sardines and fry each side till brown and crisp, which will take but a minute or two. Have ready some strips either of toast or of bread fried crisply in clarified dripping, put a sardine on each strip, squeeze a little lemon juice, and dust cayenne or black pepper, or a mixture of both, and a sprinkle of finely-chopped parsley on each fish, and serve very hot. The garlic may of course be omitted at discretion.

MUSHROOM SAVOURY.

Broil some mushrooms (after stripping off stalk and skin and lightly sprinkling with a little fine salt) in a small quantity of butter; dust with cayenne and serve on small rounds of toast or fried bread. If the bread rounds are cut out with a fluted cutter and fried in oiled butter, and good fresh mushrooms, each about the size of a five-shilling piece, are used, this savoury can be served at a dinner-party.

HERRING ROE (A FAVOURITE SAVOURY).

Take the soft roes of herrings, allowing one to each person, dust them with cayenne or white pepper, and roll each in a slice of bacon; fry in bacon fat, and serve each on a croûton—*i.e.*, a small round of bread cut out with a fancy cutter, fried crisply in bacon fat and drained. Serve very hot. Herring roes can be bought separately.

DEVILLED TONGUE.

Cut as many rounds from the thickest part of a small tinned tongue as there are guests; the rounds should be about a quarter of an inch thick. Cut rounds of bread a little larger than the tongue rounds (with a fluted cutter looks best), fry the bread in clarified dripping, place a round of tongue on each croûton, season well with nepaul pepper and finely chopped parsley, which before chopping has been fried crisply in clarified fat and drained. Put a glacé cherry dusted with black pepper in the middle of each slice of tongue, and heat the whole thoroughly in a Dutch oven before the fire and serve. A drop of tarragon vinegar on each cherry would be an improvement.

DEVILLED EGGS EN SURPRISE (COLD).

Boil some eggs hard, cut in two with a sharp knife, take out the yolks and put them in a mortar; scrape the scales, cut off the heads and tails, and bone four sardines for three eggs, pound them with the egg yolks, a teaspoonful of tarragon and one of chilli vinegar and black pepper; when smooth fill whites of eggs (which have been slightly brushed with salad oil and dusted outside with a mixture of black, white, nepaul, and cayenne peppers mixed with a pinch of castor sugar and salt) with the mixture, and stand each on a small freshly-made cheese biscuit. Allow half an egg for each person.

CHEESE SAVOURY.

(Economical, and if in little fancy cases may be served as a savoury at a small dinner.)

Method.—Grate any cheese scraps—different kinds may be mixed if grated fine—mix with a rather less quantity of

very fine bread crumbs, season with pepper and salt, and moisten well with milk, or better still with cream (a tablespoonful of cream from a sixpenny jug of thick cream mixed with a little milk would do admirably), thickly butter a small flat pie-dish, or some little fancy moulds, put in the mixture, strew bits of butter on the top and bake, or, better still, cook in a Dutch oven before the fire till well browned on the top and cooked all through—about fifteen to twenty minutes if the fire is good. Sprinkle finely chopped parsley over the top a few minutes before the cooking is finished. Serve very hot.

A PLAIN SAVOURY (CHEAP).

Fry some small round unsweetened biscuits in clarified dripping, drain, dust with cayenne or nepaul pepper, spread with bloater paste, dust this with black pepper and a pinch of finely chopped parsley, add two or three drops of chilli or tarragon vinegar or lemon juice to each, and heat in the oven. Serve hot.

CHEESE STRAWS, OR CHEESE BISCUITS.

(These take the place of plain cheese at dinner-parties. They are much better and cheaper if made at home than if bought.)

Requisites.—Two ounces of grated Parmesan cheese (can be bought ready grated if desired), one ounce of lard, one ounce of butter, two ounces of flour, salt, cayenne.

Method.—Mix the grated cheese with the flour, rub in the butter, lard, and seasoning, roll out very thin, and cut into narrow strips about a finger long for cheese straws, or stamp out with a pastry cutter or with the top of a wine-glass for cheese biscuits. Bake in a quick oven for ten minutes. The baking will cause the straws to curl into the proper shape if the oven is very hot, but it must not be hot enough to cause them to burn. Serve the straws in little bundles tied together with ribbon.

PULLED BREAD (TO SERVE WITH CHEESE).

Take pieces of broken bread (fresh bread is best), break off the crust, and tear (do not cut) them into pieces, put

them into a brisk oven and bake quickly until of a bright brown. Should, if possible, be made an hour or so before serving.

SALTED OR DEVILLED ALMONDS.

It is much more economical to make these dainties, which are a great addition to the dessert table, at home, than to buy them. They cost 3s. 6d. a pound if bought, but can be made for half that price, as almonds are only 1s. 4d. a pound. The method of making is very simple. Put the almonds in warm water for a minute or two, and remove the skins. Put a piece of butter, more or less according to the quantity of almonds, only sufficient to fry them being needed, into an enamelled pan; when it is melted put in the almonds; dust well with salt for "salted" almonds, or with cayenne and salt for "devilled" almonds. Fry till crisp and pale gold coloured, turn on to a sieve to drain. They are best used within a day or two, but will keep in a tin canister.

CHAPTER XIV.

INEXPENSIVE PRESERVES.

HINTS ON MAKING PRESERVES.

1. DON'T try to economise by buying cheap sugar for jam-making; it is the dearest in the end, because it throws up a great deal of scum, which in removing causes waste of jam.

2. Don't try to economise by buying damaged or over-ripe fruit for preserving; it will not make good jam.

3. Remember that fruit for jam-making should not be wet from dew or rain, nor should it be dusty.

4. An enamelled pan is the best for preserving; iron pans or spoons injure the colour. Copper pans must be very clean and bright, or they may prove poisonous. Always use a wooden spoon for stirring.

5. Never place the preserving-pan directly on the fire, or the contents may burn; it should be on trivet bar or hot plate.

6. Don't add the sugar until the preserve has boiled into a juicy state; then add it broken small, not powdered or in big lumps.

7. Put the preserve into perfectly dry jars, or it won't keep well.

8. Don't cover till day after making.

9. Cover with tissue paper dipped in brandy or white of egg, then with parchment rounds fastened to edge of jars securely.

10. Keep in cool, airy place.

11. Put name of jam and date of making on all jars.

12. If jam becomes mouldy, remove mould thoroughly and boil up again.

APPLE PRESERVE.

This is an old-fashioned Irish recipe, used by people who had their own orchards, and who preserved in this way all the small refuse apples, windfalls, etc., which would not be worth storing. It is an excellent preserve, and can be made from any kind of apples, and as there is no paring or coring required, it is a most economical method of using up small apples, which when pared and cored leave but little residue.

Requisites.—Apples, water, sugar, cloves, nutmeg, cinnamon, a small lemon.

Method.—Wipe the apples, take off the stalks, and cut out any badly bruised or decayed spots. Put them into a saucepan, or large pot if the quantity is great; they should three parts fill it. Pour over as much cold water as will completely cover them, and boil till they become a pulp. Hang a loose textured flannel bag, to which tapes have been firmly stitched, between two chairs, with a pan underneath it. Pour the contents of the saucepan into the bag, and let it drain till the residue in the bag is dry. It should be pressed occasionally with a wooden spoon. Next day measure the liquid, and to each quart add one pound of sugar, a dozen cloves, quarter of a teaspoonful of grated nutmeg, and a little bit of stick cinnamon; these should be tied loosely in a bit of muslin. To the whole quantity add the *very* thinly pared yellow rind of the lemon and its juice strained. Boil until it becomes quite thick, take out the muslin bag, and put the preserve into moulds or jars. When cold it will be nearly or quite solid.

Note.—If the quantity exceed three quarts, a second lemon should be added. Some people like a little whole root ginger added to the other spices, but some dislike the flavour of ginger—this is a matter of individual taste. Coarsely chopped candied peel and citron added during the second boiling, and left in the preserve, is an excellent addition when its cost is not objected to.

PICKLED CHERRIES.

Boil some vinegar for ten or fifteen minutes with a large teaspoonful of peppercorns, two lumps of sugar, a dozen whole allspice, six cloves, and a dust of nutmeg, cayenne,

and salt to each pint of vinegar ; wipe, stalk, and stone the cherries, unless they are very small and hard, when it is not worth while to remove the stones, put them in a jar and pour the vinegar while boiling through a muslin over them, when cold cover the jar. This pickle may be made with glacé cherries, in which case omit the sugar.

INEXPENSIVE LEMON MARMALADE (VERY GOOD).

Requisites.—Lemons, water, sugar.

Method.—Divide the lemons into quarters, remove the pips, and lay each quarter on a board and slice as thin as possible, peel and pulp together. To each pound of sliced fruit add three pints of cold water (if the lemons have very thin rinds and are very juicy, two pints or two pints and a half may be sufficient), then let it stand for twenty-four hours in an earthenware pan, after which boil all together until the strips of peel are perfectly tender. This will generally take about three-quarters of an hour, but if the skins are thick and rough more time may be needed; then pour through a colander, and weigh the pulp that remains when the liquor has flowed through, and to every pound of pulp add one pound and a quarter of sugar and one pint of the liquor that has flowed through the colander (the surplus liquor may be bottled for use as lemon squash); boil for three-quarters of an hour, removing carefully all scum. Try a little on a plate; if it jellies when cooled it is done, if not, continue boiling till it does.

Note.—Sometimes lemons are very plentiful and cheap. Advantage should be taken of such a time to make this preserve. Quickly wash and wipe the lemons before preserving.

ORANGE MARMALADE.

Requisites.—Twelve Seville oranges, two sweet oranges, juice of two lemons, sugar, water.

Method.—Slice the oranges with the peel on very thin, carefully removing the pips. To every pound of sliced fruit allow one and a half pints of water, and let all stand together for twenty-four hours, then boil for two hours, next day weigh it (this is most easily done by weighing the pan or basin in which the preserve is put while empty, and then

again with the preserve in it, and subtracting the weight of the receptacle), and to every pound of boiled fruit add one and a half pounds of loaf sugar; boil for twenty minutes or till it jellies.

Another Recipe.

Peel twelve Seville oranges and put the peel in a pan with enough water to cover it, and leave to soak for twenty-four hours, then cut the peel as fine as possible and put it in a stew-pan with twelve pints of water (use for this any water left after the soaked peel is removed), and boil for two hours, then add fourteen pounds of sugar and the pulp free from pips and rough pith, and let the whole boil for three-quarters of an hour, stirring often.

Note.—Wash and wipe oranges before commencing operations. Do not cover till the day after putting in pots.

RHUBARB SYRUP.

Requisites.—Six pounds of rhubarb, weighed after the rough end of each stick is cut off, three quarts of cold water, three pounds of lump sugar, thinly pared rind and juice of two small juicy lemons, six cloves, a piece of root ginger about the size of half the little finger.

Method.—Wipe but do not skin the rhubarb, cut it into finger lengths, put them into a saucepan with the water and boil until the rhubarb is quite broken up, pass it through a canvas bag into a pan and let it stand till cold, then add the sugar, cloves, ginger, lemon-peel (taking care that only the yellow of the rind is pared off; if the white underskin is left on it will impart a disagreeable bitter flavour), and juice, and boil again till it becomes reduced in quantity and a little thick. When cold, bottle and cork. This makes a delicious and most wholesome drink mixed with cold water, and also greatly improves the flavour of stewed or baked apples if a little be mixed with them. It makes an excellent accompaniment to all sorts of farinaceous or bread puddings simply served as sauce, hot or cold.

Note.—The amount of sugar may be increased or diminished according to individual taste, so also may the ginger and cloves be increased or omitted altogether by those who dislike their flavour.

TO PRESERVE RHUBARB (VERY GOOD).

Requisites.—Rhubarb, sugar, a little whole ginger, almonds.

Method.—To every pound of fruit allow one pound of sugar. Cut the rhubarb, after wiping each stalk clean, into lengths of about two inches, and put it with half the quantity of sugar into an earthenware pan, and let it stand till next day, then pour the syrup from the rhubarb and boil it with the rest of the sugar till it thickens, then put in the rhubarb and sliced ginger, about half an ounce of this to every two pounds of rhubarb, and some blanched sweet almonds split (the quantity of these must be left to the discretion of the maker). Boil the whole gently for an hour and a half, not longer, or it will become candied.

CHAPTER XV.

ECONOMICAL BREAKFAST AND SUPPER DISHES.

BEEF'S HEAD (COLLARED).

TAKE a pint of the liquor in which a beef's head was boiled (see p. 165), and boil it with a sliced onion and some savoury herbs until it is well flavoured, season with pepper, salt, and tarragon vinegar to taste, dissolve half an ounce of gelatine in just enough cold water to dissolve it, add it to the liquor. Nearly fill a mould with slices of boiled beef's head (these may be intermixed at pleasure with slices of ham, salt pork, bacon, hard-boiled eggs, capers, gherkins, etc.), pour the liquor over the meat, which it should cover, and when quite cold turn out.

BONED FOWLS (A DISH FOR A SUPPER PARTY).

Bone a good fowl (the poulterer will do this, if asked, for general customers often without extra charge), take one pound of veal cutlet, half a pound of ham (uncooked), half-a-dozen mushrooms, and a truffle, white pepper and salt, and one egg. Pound all in a mortar* till thoroughly mixed and stuff the fowl with it, and bake for three-quarters of an hour, or one hour if the fowl is large. Glaze over with some brown stock in which gelatine has been dissolved, or with aspic jelly while liquid; or cover with thick white sauce in which a little gelatine has been dissolved. Garnish with cut up truffles, olives, and slices of beetroot cut into fancy shapes. This may not sound a very economical dish, but for a supper party it is really inexpensive, as it can be prepared at home, and a little of it goes a long way, as it is all solid cutting.

* The mortar may be lightly rubbed with garlic.

BRAWN.

Requisites.—Half a pig's head, either fresh or pickled, one onion, one carrot, a stick or two of celery, cloves, gherkins, peppercorns, pepper, salt, garlic, half a pound of sausages.

Method.—Boil the head for one and a half hours in water with the onion stuck with cloves, carrot, celery, peppercorns. The flavour of these penetrate the head and greatly improve the brawn. Skim well while boiling. When the bones come out easily it is done, take it up, take out the bones and mince the meat small. Boil the sausages for quarter of an hour, take off the skins, chop up the sausage meat and mix it with the minced meat of the head, mixing with it some chopped gherkins, pepper and salt. Rub a mould lightly with a cut clove of garlic, press the mixture in, place a plate or dish and weight on top, turn out when cold. If it is hard to turn out dip the mould in hot water for a few seconds.

EGGS IN MAYONAISE (A PRETTY SUPPER DISH).

Boil six eggs hard, shell, cut in two, take out yolks and mix them with a bit of butter, a spoonful of anchovy sauce, or one or two sardines scraped fine, and a little pepper. Fill the whites with the mixture, arrange in a glass dish on a bed of shred lettuce, which may be garnished with tomato, beetroot, etc., and cover lightly with mayonaise sauce, p. 180.

EGGS, SCRAMBLED.

(How to make two eggs into a nice breakfast dish for four people.)

Requisites.—Two eggs, a teacupful of fine bread crumbs, a teacupful of milk, piece of butter the size of an egg, four slices of bread, clarified dripping, pepper, salt.

Method.—Whisk the eggs well, melt the butter in an enamelled saucepan, put in the bread crumbs, milk, eggs, pepper and salt, and stir constantly for four or five minutes over the fire. Fry four slices of bread, cut neatly and with crust pared off, in clarified dripping, drain, divide the contents of the saucepan equally over the slices. Serve very hot. (A little chopped parsley or minced ham or tongue may be added if liked.)

TO USE REMNANTS OF TINNED TONGUE.

Chop the remnants of tongue very small, and mix it with one or two well-whisked eggs; pepper and salt to taste. Melt a little butter or the fat of the tongue or clarified dripping in a small saucepan, put in the tongue and eggs, and stir over the fire till the egg is set, spread upon toast, dry or buttered, and serve hot, or spread upon bread fried in dripping. Chopped parsley may be added if liked, and if necessary the egg may be omitted, the tongue, seasoned, being heated in butter or fat and spread on toast.

HADDOCK, SCRAMBLED.

Boil a dried haddock in water for a few minutes till it comes easily off the bone, then with a fish knife and fork scrape all the fish free from skin and bone, put it into a saucepan with a little milk and a bit of butter and pepper, and stir it round till very hot. Spread on toasted rounds of bread. Serve hot.

DEVILLED HERRINGS.

Open the herrings and take out insides and back bones, cut off heads and tails, scrape off scales; rub the inside well with a mixture of made mustard, black and red pepper, and a few drops of vinegar; close the fish, rub the outsides with butter, pepper well, and grill or cook in a Dutch oven for about ten minutes.

CANADIAN TOAST.

Cut four rather thick slices from a stale tin loaf, toast them a bright, crisp brown. Put four ounces of salt butter into a small basin of boiling water; when it floats on the top skim it off, a spoonful at a time, leaving a very small quantity of water in the spoon; pour some over each side of the slices until all the butter is used, pile on a hot plate, and put it in the oven for five minutes.

SAVOURY TOAST.

Put some clarified beef-dripping or bacon fat into a frying-pan, season it with salt, black pepper, mushroom ketchup,

Harvey or Worcestershire sauce, and fry in it when nearly boiling some slices of a stale tin loaf from which the crust has been trimmed off. Drain before the fire.

SAVOURY SEA BISCUITS.

Soak some captain's biscuits in milk, dust with salt and pepper, put a bit of butter on each, and make very hot in the oven.

CHAPTER XVI.

NURSERY DISHES.

HASTY PUDDING.

(A good breakfast for children.)

BOIL half a pint of milk, and pour into it a mixture of two dessert-spoonfuls of flour blended smoothly with a teacupful of cold milk; keep stirring from the bottom while boiling, and let it boil seven or eight minutes; pour into a soup-plate to cool; a little sugar or salt can be added to taste. This is sufficient for breakfast for a child of three.

BOILED BREAD AND MILK.

There is a right way and a wrong way of making even this simple dish. Some people crumble the bread and pour boiling milk over it. *That is the wrong way*, because it makes a mawkish, tasteless compound. The bread and milk should be *thoroughly* well boiled together, and the *crusts* should be plentiful, as the dish will be much richer if there are crusts in it. Break the crumb and crust rather small, do not *cut* them up, pour cold milk over just to cover them, add a few lumps of sugar, and boil all together for ten minutes after it begins to simmer; the more crusts there are the more boiling it needs. This is *most* nutritious, and is an admirable way of using up broken bread if made a breakfast-dish for the children once or twice a week. On the other days may be given a dish than which there is nothing more nourishing or more economical—viz.,

OATMEAL PORRIDGE.

Requisites.—Oatmeal, coarse or fine according to taste, water or milk, salt.

Method.—Make one pint and a half of water or milk, or milk and water, come to boiling point, then directly pour in a breakfast-cupful of oatmeal with the left hand, *stirring with the right hand all the time till the meal and water are well mixed*, then let it boil for ten minutes, add salt to taste (if this is put in at the beginning it prevents the meal from swelling properly), and continue the boiling for another ten, or still better, twenty minutes, stirring occasionally to keep from burning. If made with milk it will burn more easily than with water. Should be made in an iron saucepan. If made as directed, it will be smooth and free from lumps. Underdone porridge is indigestible.

SAVOURY PUDDING.

Pour a teacupful of beef-tea, or any kind of meat broth, over two tablespoonfuls of fine bread crumbs, white or brown, let them soak well, beat them up with a fork, and add gradually a well-whisked egg and a little salt, put it into a small greased basin, cover with a buttered paper, stand this in a small saucepan with hot water to come three parts up the sides of the basin, and let the water boil gently round it for twenty to twenty-five minutes; let it stand to cool for a few minutes and turn out.

SAVOURY CUSTARD (NOURISHING).

Whisk in a small basin a new-laid egg (a duck or turkey's egg may be used), carefully take out the "string" of the egg, pour in a teacupful of strong beef-tea, or meat broth of any kind (broth made of mutton, veal, and beef mixed is very good), or chicken broth, and salt to taste; cook as directed for savoury pudding. Celery salt may be used to make any of these decoctions more savoury, if it is necessary to stimulate a failing appetite.

NURSERY PANCAKES.

Requisites.—Two eggs, half a pint of milk, teacupful of bread crusts broken small, two tablespoonfuls of flour, sugar, jam or lemon juice.

Method.—Pour boiling water over the crusts and let them stand five minutes, then squeeze the water out and beat

them fine with a fork. Make a batter with the milk and eggs, sweeten, add the bread, and beat all up well, and fry in the same way as ordinary pancakes. Serve with jam or sugar and lemon juice. Enough for four or five children.

BREAD AND FRUIT PUDDING.

Butter a pudding basin, and strew some moist sugar over it, line it with rather thick slices of stale bread (about half an inch thick); the pieces must well overlap each other, and a round piece should fill in the bottom of the basin. Stew any kind of fruit with sugar (no water), and when boiling pour in and fill the basin. Let it get quite cold, then lay a large plate or dish over the basin, and turn out. Serve with powdered sugar.

FRENCH HARDBAKE.

Requisites.—One pound of sugar, half a pint of water, two ounces of almonds, juice of a small lemon, one ounce of butter.

Method.—Boil the sugar and water until a little poured into cold water becomes brittle, add the lemon juice and butter (which, if salt, should have the salt washed out), and boil until the candy hardens at once in water. Pour out on a well-oiled dish (or, better still, on the tin lid of a biscuit canister) and stick the almonds, blanched and split, all over it. It is best poured out in thin strips. To blanch almonds, soak them for a minute or two in tepid water and peel off skins.

Note.—This is a much more wholesome sweetmeat for children than most of the coloured and unwholesome trash so often sold in sweet shops. To vary it, the almonds may be omitted, and essence of peppermint or vanilla or lemon may be mixed with it, or the top may be strewn with grated cocoa-nut or chopped walnut.



The Care of Infants and Young Children.



CHAPTER I.

THE CARE OF THE INFANT BEFORE BIRTH.

IT is a serious mistake to think that care for the physical well-being of the child needs only to begin with the hour of its birth. That is many months too late. The embryo is *alive* from the period of conception, it is continually developing, and therefore is continually requiring nourishment; that nourishment is derived entirely and only from the mother's blood.

We know how bodily and mental health and vigour depends upon and is influenced by feeding. The ill-fed and half-starved are sure to degenerate in mind and body. If this is so with the adult, and, as it is in a special degree, with the growing and developing child, so it is also with the fast growing and developing *unborn* child.

If the mother's blood is impoverished and unhealthy, can we expect that she will give healthy nourishment to the being dependent upon her for its support? Not logically.

To feed her unborn child on nourishing food is, then, one of the first duties of the mother, if she recognises, as, unhappily, some do not, that she is responsible to a great degree for the health and constitution of the new life

that is coming into the world. She cannot feed it upon nourishing food if her own blood be not pure, and for this reason the care she takes of her health during the period before the child's birth is just as necessary *for its sake* as it is for her own. It is important to know that the natural tendency of the blood during this period is towards a condition of poorness or anæmia. This is now an ascertained fact, for which we are indebted to the researches of modern medical science. Formerly, women who were expecting to become mothers were (by what process of reasoning who can say) supposed to stand in need of a lowering treatment. They were frequently bled and dieted after a method that would now be considered severe treatment for an apoplectic alderman! The microscope has revealed the fact that the symptoms during pregnancy which were supposed to be due to plethora are more or less caused by an anæmic condition of the blood. Our efforts, therefore, should be directed to enriching the blood, not to depleting it.

On this account the expectant mother should, of all things, breathe pure air and be out of doors as much as possible, because it is only in the open air that we get the fullest amount of that chiefest of all blood purifiers, oxygen, which has been well called "the great sweeper of the body."

The more the mother is in the open air, therefore, the better will be the nourishment she supplies to the child. She should take care to live in well-ventilated rooms by night as well as by day. If she sits up late in an atmosphere over-heated with gas, she is breathing in air laden with carbon dioxide, and deprived of a large proportion of its oxygen (each gas jet is computed to consume as much oxygen and generate as much carbonic acid as two or three human beings), and as a consequence her blood is being slowly poisoned. We must remember that there are degrees of poisoning—the blood may be sufficiently poisoned to result in lowered health, though not in death.

The care of the child in this respect no doubt involves self-denial. It means staying away from crowded assemblies, it means going to bed early, it means being out in the fresh air instead of visiting in close drawing-rooms, but surely it

is a denial that will be well rewarded in the increased vitality of the child. The nutrition of the blood is naturally also influenced by the food eaten. The mother will do well to remember that her care for her unborn infant includes care for the quality of her own feeding, and perhaps some self-denial in this matter too.

Food or drink that tends to make fat—adipose tissue instead of muscular tissue—to make fermentation and acidity, and to cause indigestion, and that tends to inflame the blood, should all be avoided. Under these heads we find sweets, rice, potatoes, rich dishes, beer and alcohol. These should be taken in the strictest moderation. The food should be of the kind to make good muscular tissue, and to supply to the child the lime and earthy salts so absolutely necessary for the proper development of its bones. Meat, fish, game, poultry, all contribute to muscular growth. Milk, eggs, oatmeal, wheatmeal, Haricot beans, and especially lentils, besides being valuable *flesh* formers, are also valuable *bone* formers. "Milk," says Herr Bunge, Professor of Physiological Chemistry at the University of Basle, "contains more lime than lime water, and next to milk the yolk of eggs." "Lentil flour," says Sir William Roberts, "contains twice as much proteid (*i.e.*, flesh-forming) matter as wheat or oat flour, and almost twice as much lime." Dieting on these lines may require a little self-denial, but it too will be rewarded.

But, besides the care for its physical health, there is another very serious matter that demands the parent's attention before the birth of a child, and that is the care for its mental health.

The "nervous system" (that wonderful and mysterious part of the human organisation often so little considered) of the mother is in inexplicable sympathy with that of her unborn child. Injury to her nervous system may cause lasting and ineradicable injury to the brain-health of the child.

"I can, from my own experience," says Dr. Langdon Down, "refer to the number of cases of feeble-mindedness (in children) which were the outcome of the Siege of Lucknow, and in many others the result of sudden shocks from the receipt of distressing tidings of death or other

calamities." It is not, of course, always possible to guard the expectant mother from such shocks, but it is very important to remember that injury to the child *may* result from the mental emotion of the mother, and those around her, particularly the one who is most responsible in the matter, should do everything possible to preserve her from mental disturbance and distress.

Quiet and cheerful surroundings and the avoidance of too great pressure of brain work (a modern danger to which our great-grandmothers were not so much exposed) are just as necessary as fresh air and proper diet for the woman who would do her best for the physical and mental vigour of her coming infant.

All parents should recognise their responsibility in this matter, and should not forget that even if they cannot secure wealth and station to their offspring they can do a great deal to secure to them those greatest earthly blessings, sound bodily and mental health, the foundations of which must be laid, not only in infancy, but before it.

CHAPTER II.

THE CARE OF THE NEW-BORN BABY.

AFTER being wrapped up warmly the new-born baby's eyes, nose, and mouth should be carefully wiped with a clean soft rag, so as to thoroughly clear from them all mucous secretion, which if not removed may be drawn into the air passages or cause injury to the eyes.

Warmth is the first requisite of the newly-born infant; its body temperature falls below normal soon after birth, therefore it must be warmly wrapped up and the temperature of the room should not be lower than from 60° to 65° F.

To a new-born baby warmth is much more necessary than food. It will live for many hours after birth without food, and be none the worse for it, but if it were put into a cold room without warm clothes the heat it brought into the world would be quickly lost and it would soon die.

A large thick flannel apron must be provided when a baby is expected, and the nurse should always wear it when washing the infant.

Before commencing the first washing the infant should be rubbed all over, especially in the crevices of the joints, with a little warm oil or pure grease, and then lathered with a good lather of pure uncoloured soap and warm water. The object of the greasing is to loosen the cheesy curd-like substance which more or less adheres to the skin of the new-born baby (though some are quite free from it). There is no need for rubbing and scraping off every morsel of this, as it only causes unnecessary exposure of the infant; if it does not all come off with the first washing it will with the next. When this soaping, which should include the head (taking care not to let the soap into the eyes), has been quickly accomplished, the infant must be plunged up to the

neck in the bath and sponged all over with a soft sponge (the flannel used for the first soaping should not be used again). The heat of the water should be 90° F., not more, and should be tested with a thermometer. Putting babies into water that is much hotter than this, and especially letting them lie soaking in it, frequently causes eruptions on their peculiarly tender skins. This is one reason for not delaying over the bath, but the principal reason why this first washing should be done expeditiously is on account of the already-mentioned fact that the infant's temperature falls after birth. At birth its temperature is between one and two degrees above normal, it falls soon after to one or two degrees below normal. This is important to remember, for it shows us the necessity for keeping the new-born infant warmly wrapped up and in a warm room, and for not exposing it to the air during washing a moment longer than is absolutely necessary. Some hours after birth the temperature, if the child is doing well, rises again to 99° F., which is the normal degree of the temperature of the body in infancy.

After the first washing the navel cord should be re-tied, as sometimes it shrinks after washing, and if this should escape notice bleeding may take place under the clothing. Before being dressed, the child, wrapped in a warm flannel, should be weighed, the weight of the flannel deducted, and the weight written down. It should also be measured with an inch tape and the length noted. This is not merely to gratify curiosity, but is necessary as a guide to the infant's progress. (See chapter on "Physical Development.")

There is not the slightest need to give food to a new-born baby. It does not come into the world empty; on the contrary, its intestines are filled with a dark treacle-like secretion. This is largely composed of *bile* which the infant's liver has been secreting before birth, and which must be cleared away. It is always a good plan, for this reason, to give a teaspoonful of castor oil a few hours after birth, but the butter and sugar, gruel, etc., which some nurses give are both unnecessary and may be injurious.

It is always well, for the mother's sake, that the child should be put to the breast as soon as she feels inclined to

allow it, but there is seldom any milk for a day or so, which need cause no uneasiness; there is not the remotest fear that the child will starve, it is all the better for a little abstinence. It may be given a little warm sugar and water in a spoon, at intervals of two hours, which will quite satisfy it till the mother can nurse. If from any reason she cannot do so, bottle-feeding may be begun at the end of about twelve hours. (See Chapter V.)

The mother's milk, by a provision of nature, has a purgative action for the first few days, and excepting for the first dose of castor oil, the baby rarely requires any medicine if the mother can nurse it.

The rest of the treatment on the day of birth is simple. Sleep and warmth are the two chief needs of the new born, but warmth must not be confounded with "stiffness"; infants require to breathe pure air as much as, or even more than, grown people.

CHAPTER III.

WASHING OF INFANTS AND YOUNG CHILDREN.

BATHING and washing, besides being luxuries, are absolute necessities for keeping the functions of the body in proper working order, because a certain amount of the effete products of decomposition in the system are, or ought to be, carried off from the blood through the pores of the skin. It is calculated that there are nearly two millions and a half of these tiny mouths, each the opening of a little gland, on the surface of the body. If these pores or mouths are, from want of cleanliness, unable to act properly, and the deleterious matter which should pass through them is prevented from doing so, it is obvious that it must be thrown back into the blood to be removed by some of the other waste-removing organs, which may thereby suffer from overwork. Bathing is especially essential for young children, their organs being less able to bear the strain of any overwork than those of adults. But this very necessity has led to abuses. It is in some cases far too much the habit to overdo bathing, as when we find children bathed both morning and evening.

This is a very great mistake. No infant or child should be bathed more than once in the twenty-four hours; as much harm is done by over-bathing as by under-bathing.

Dr. Jaeger, whose principles of hygienic clothing are universally admitted to be correct, maintains that infants should be bathed only once a week. This, he is careful to explain, must not be taken as a defence of dirty habits, for he requires that the child should be sponged whenever necessary; but what he asserts is "that the frequent immersion in water of the tender, unprotected body of an infant is injurious. The application of soap, which may or

may not contain injurious ingredients, and which removes from the skin the natural oil which serves to protect it, and the subsequent putting the dry clothes over the dried skin, may seriously affect the distribution of blood, and thereby endanger the child's well-being. Removal of dirt where it is apparent is quite sufficient, without constantly bathing the entire body, which latter operation should not be undertaken at shorter intervals than at least a week."

This may seem startling to English readers, but nevertheless it deserves consideration. The constant use of soap and warm water all over the body is weakening, it takes too much off the skin, and even for adults who are not robust it is enervating. How much more so must it be to a young infant, especially to a weakly one? Therefore a bath once a day is quite enough for any young child, and it is, for two important reasons, better given at night than in the morning. In the first place, a bath has a sedative effect; an infant always sleeps better after its bath, and this at night is a great advantage to all parties concerned. Then for older children, who, if they lead a healthy out-door life, will not be as clean at the end of the day as they were at the beginning, it has the advantage of sending them to bed with clean skins, and it is neither healthy nor refreshing for them to go to bed dirty.

Now as to the temperature of the water; this is a very important point, and too much neglected in many a nursery. For the new-born baby's bath, as has been said, the water should be 90° F., but after the first month or so this may be reduced, and at a year old the water should be only tepid.

Every nursery should be provided with a bath thermometer (which can be had for a shilling), as the heat of water can never be properly tested with the hand. If, however, this cannot be had, the elbow should be plunged into the water, as it is much more sensitive than the hand, and therefore a more accurate judge of the heat.

Some nurses are extremely careless in this matter, and regularly bathe their charges in very hot water, which is weakening and also renders the children very liable to catch cold after it. Others have the idea that a cold

bath "hardens" a child. They have no knowledge of the physiological effects of either hot or cold water on the system, and so they act upon the tradition that a cold bath is strengthening, without taking the constitution of the child with whom they are dealing into consideration. Now, the sudden contact of cold water with the surface of the skin displaces from it the blood, which is driven into the internal organs. When people are robust and in good health this does no harm, because a healthy reaction causes the blood quickly to return to the surface, and they feel a glow of warmth in the skin; but a weakly person does not get this reaction, the blood congests the liver and other internal organs, and may cause serious derangement, particularly if there is any affection of the liver existing. To a weakly child a cold bath is very injurious indeed.

A hot bath has the opposite effect and raises the temperature of the skin above its normal level, and by withdrawing blood rapidly from the stomach and brain, sometimes causes faintness to those who are not very robust. A hot bath is a very valuable remedy in convulsions, because it thus draws the blood from the brain, but we can easily see that such a disturbance of the system would be very injurious in everyday practice.

For young children, therefore, the bath should be lukewarm, as they are not strong enough to get a quick reaction after cold; but for sturdy children over six a plunge into a cold bath in summer time, provided it is a quick plunge in and out, taken *before* breakfast, is a capital tonic. This may be taken in addition to the scouring with tepid water and soap at bed-time. Although cold baths are not fit for young children, it is a good plan to pass a sponge lightly wrung out of cold water once or twice along the spine immediately after the daily bath. This is a good tonic for the nervous system, an important part of which, the spinal cord, runs down the back.

Friction after the bath is also very useful. When the infant has been well dried, it is very good for it to be laid on the lap and have its spine and limbs gently shampooed for a few minutes. Except in warm weather this should of course be done before the fire.

If possible, rain-water should always be used for washing

infants and children. Their skins are much more tender than those of grown people. The skin of a young infant is especially tender, and hard water is injurious to it. If rain-water cannot be had, it is well to remember that boiling the water will somewhat soften it. We may know this from the fact that much-used kettles become coated inside with fur; this is really the hard lime in the water which is precipitated by boiling, and deposited on the sides of the vessel, and so removed from the water. Exposure to air also softens water, but of course it should be exposed for a number of hours; the action of the air causes the carbonic acid gas in the water to rise from it, and the lime to sink to the bottom, therefore the water becomes softer.

A little muslin bag of coarse oatmeal kept in the nursery jug and changed once or twice a week has also a softening effect on the water.

If care is necessary with regard to the water used for washing babies and children, still more is it required with regard to the soap and powder applied to their delicate skins. Common coarse soaps should never be used for such a purpose. They are made with strong alkalis (soda and potash); these may, in cheap soaps, be seen glittering on their surfaces, and are destructive to the skin. Neither should highly coloured and scented soaps be used. In any case the use of over much soap should be avoided, and what is used should be well washed off before drying.

Violet powder bought at hairdressers' shops should never be used as a dusting powder for babies. It sometimes contains white lead and other things which, though they may not cause mischief to the stronger skin of the adult, may be dangerous to the delicate skin of the infant.

The safest and best dusting powder, both for infants and grown people, is finely powdered *Boracic Acid*. This is an antiseptic, and can be cheaply bought at any chemist's. The next best dusting powders are fuller's earth, or finely powdered and sifted starch. Any of these may be scented with a little powdered orris root, which is sweet and harmless.

Babies should always be dusted after the bath, between the folds of the joints, under the arms, and round the neck, but the application of a little vaseline or pure grease

between the legs is a better preventive of the chafing so liable to occur from the constant wetting of that part, than powdering.

If no powder puff is at hand a little bag of soft muslin makes a good substitute.

There are 5 rules in connection with the bathing of children which I would particularly impress upon mothers as *absolutely essential* to be observed. The neglect of them may cause serious or even fatal injury:—

1. Always pour cold water into the bath first, then add the hot.

2. Always *Lock the Door* before the child is undressed, and do not unlock it until the child is dressed again.

3. Be quick over the bathing.

4. Dry well, and never put a child to bed with damp hair.

The observation of rule 1 may prevent a serious accident. A short time ago an inquest was held on a little child who was scalded to death. The nurse (it was in a gentleman's family) had poured a can of boiling water into the bath, and then gone to fetch a can of cold water. In her absence the child toddled to the bath and fell in. Such things could not happen if this apparently trifling rule was always observed.

Rule 2 also appears trifling, but momentous issues frequently hinge upon trifles, and the observation of this rule, strange to say, may prevent the child falling a victim to *heart disease*.

One of the most eminent authorities on diseases of children, Dr. Eustace Smith, says—

“The large majority of cases of heart disease are the consequence of rheumatic endocarditis* occurring in early life. . . . The principal cause of rheumatism is exposure to cold, or to cold and damp. In young children and infants a very slight impression of cold may suffice to set up the disease. Thus, I have known a young child exposed to draughts from the nursery door, while being dried after a bath before the fire, suffer, shortly afterwards, from stiffness and pain in the knees and endocarditis.”

* Endocarditis is inflammation of the endocardium, a membrane which lines the interior of the heart.

It is very necessary indeed that every mother and nurse should understand this important fact. In many houses the ceremony of "bathing baby," particularly a baby who is "a new broom," is one at which every member of the household takes every opportunity of having a peep.

We can remember the conversation between Celia and Dorothea in *Middlemarch*, when the latter wanted to return to her own house after Mr. Casaubon had been peaceably dead and buried for three months, and her sister opposed the idea.

"I shall often come here, and I shall see how baby grows all the better," said Dorothea.

"But you will never see him washed," said Celia, almost pouting, 'and that is quite the best part of the day.'

"I will come and stay all night on purpose," said Dorothea, consolingly."

Now there is no harm in all the household "seeing baby washed," if they want to, provided they come in and shut the door, and don't open it again till the child is dressed; but when they run in for a peep and run out again, probably while the child is lying wet and naked on the lap, they produce nearly the same effect by the opening and shutting of the door as a punkah swinging from the ceiling. No wonder the draught on the child's wet skin quickly sets up chill and rheumatism. That this *may* be followed by heart disease should never be forgotten.

A screen is very useful in a nursery; if it is placed round the bath the danger of stray currents of air during bathing is effectually prevented.

Rule 3, the importance of expedition in washing the infant, has already been mentioned. It is equally necessary with all children. Dawdling over the bath is a frequent cause of chills and colds. Long soaking in warm water is very likely to cause skin eruptions, and certainly causes sensitiveness to cold.

Rule 4 is *extremely* important, and is frequently neglected.

Inexperienced and careless nurses often only half dry children, and dress them or put them to bed quite damp. Sometimes they don't know, and sometimes they don't care, that this is a very sure way of setting up rheumatism.

Every mother should consider it a special duty to her

children either to superintend the bathing of her children herself,* or to make sure that her nurse is thoroughly reliable in this important matter of *drying*. Neuralgia, ear-ache (which is a frequent cause of deafness), toothache, and stiff neck is constantly caused by going to bed *with the hair damp*.

On the nurse's "evening out," the children should either go to bed half-an-hour earlier, so that there may be no reason for hurrying them into bed with damp heads, or for that evening the bath should be deferred till morning.

In drying the ears, much harm is sometimes done by the common habit of making a screw of a corner of the towel, and driving this into the ear.

In the care of children it is very necessary to remember that the ear is a very delicate organ, *and that it is very near the brain*. Rough treatment of the ears (including that barbarity sometimes considered needful, especially in the up-bringing of boys—a box on the ear) is often responsible for *incurable* deafness. It may set up an abscess which, on account of the proximity of the ear to the brain, may be fatal. The ears can be dried thoroughly and safely by the gentle use of a soft old towel or diaper, which should be kept for this purpose.

Rule 5. A bath should never be given till an hour after meals, and two hours should elapse between dinner and bathing in the sea, *because* the cold disturbs the digestion and often causes cramp and illness. "Paddling" at the sea-side is a dangerous thing for young children. It is often productive of *kidney* mischief, and does far more harm than good.

THE TREATMENT OF CHAFING.

Chafing of the skin between a baby's legs is nearly always the result of carelessness. It is caused by not changing the diapers when wet; by the neglect of washing this part each time it has been wet or soiled; by the dreadful habit of putting on diapers that have been merely dried after the child has wet them, instead of being soaked, as they always

* It is very important for the mothers of young children who cannot speak to make a point of seeing them stripped once a day. Skin eruptions, bruises, or injuries, which may be hidden by the nurse, can then be detected.

should be after use, for several hours in plenty of warm water; by using napkins that have been washed with soda, or blue; by washing the child with coarse soap containing a strong alkali (soda or potash); or by putting on the napkins too tight.

Little children in charge of careless nurses also often suffer severely from chafing in frosty weather from want of being properly dried.

The treatment is to avoid these causes, to wash the chafed skin, when soiled, with barley water, then gently dry, and grease thoroughly with vaseline, or pure, clean grease, or best of all with *boracic acid* ointment. This is much better for the chafed skin than powdering. Chafing is more apt to occur in weakly than in strong children.

Sometimes chafing, redness, and cracking of the skin about the opening of the bowel passage come from constitutional causes that require treatment by a doctor. If the chafing is not cured by a week or two of careful treatment as just given, the child should be shown to a doctor.

CHAPTER IV.

THE DRESSING OF INFANTS AND YOUNG CHILDREN.

"THERE is a strange vitality about great errors," said the late Dr. Guy, and every one who has taken part in any effort to replace old-fashioned methods with new will endorse the saying, and will agree that prejudices do indeed "die hard."

No prejudices die harder than those connected with clothing—above all, with the clothing of infants.

That babies should wear lawn or linen shirts, that they should be compressed into a neat shape by a firm bandage round the middle, and that their "robes" should be nearly as long as a lady's Drawing-Room train, are traditions of the nursery so well established that to overthrow them would in many cases be a task as difficult as was Galileo's.

The mind of the ignorant revolts against anything to which it has not always been accustomed, simply because it demands an effort of thought. It is easier to go on as we began than to think out the reason why we may be wrong.

This is why it is often so hard to induce people to clothe babies in wool. They have always been accustomed to the traditional linen shirt, and they *will not* take the trouble to consider the reasons why something else may be better.

Now, to know *why* wool is a better covering for the skin than cotton or linen we must know something about the skin, its functions and needs.

The skin of the human body is one of its most important organs. It is a complicated organ possessing several very important functions, all of which are of great moment to the life and health of the body. A short description of it will enable us to understand this.

The skin is composed of two layers; first we have the outer layer or epidermis (cuticle or scarf-skin). This consists of two layers, the lower one composed of little, soft, round cells; these multiply very quickly, and the older cells are pushed towards the surface, become flattened out, and form several mosaic-like layers of protective cells, just like a brick flooring a hundred layers thick. They are of a horny substance, like tiny scales, no larger than the 1-2500th of an inch in diameter: these form the upper layer of the epidermis or scarf-skin. As these surface cells are worn away in washing the body, or by the friction of the clothing, there are always fresh ones to take their place. When these newly-formed round cells become flattened out and rise to the surface they become impregnated with, or converted into, a substance called *keratin*, which is derived from the blood. It is a substance extremely resistant even to strong chemicals and acids; it gives to the skin its toughness and power of bearing on its naked surface, without discomfort, such things as vinegar, lemon juice, etc. If these, or salt, get into a cut and touch our raw flesh, we know the sufferings they cause. The reason is that the *raw* flesh is not protected by this keratin, which is in the cells of the epidermis. With the protection of the resistant keratin we can bear acids on our skin; and hot water, soap, and things that would cause the raw flesh to shrink, cause only sensations of pleasure.

The property of *reproduction* which the skin possesses is one of the most wonderful of all the bodily functions; neither the liver, the lungs, nor any of the other important internal organs reproduce themselves continually, as the skin does; it is in a state of perpetual growth, and is always being renewed.

Beneath the double-layered epidermis is the *true* skin, as it is called, which in animals is the hide that is made into leather.

The doubled-layered epidermis and true skin are of course so intimately united as to form one skin, and this skin fulfils *six functions*, which we must understand in order to appreciate the importance of healthy clothing.

1. Protective.
2. Sensitive.
3. Secretive.
4. Excretive.
5. Regulative of Temperature.
6. In a *very* slight degree the function of respiration.

1. All the members of the body are guarded by the skin in its protecting clasp. 2. Ramifying the true skin in all directions are the ends of nerves, which project into it. This gives it the function of *sensation*. These ends of nerves all communicate through the spinal cord with the brain. 3, 4. The skin is ramified also by tiny tubes or glands of two kinds—the sweat glands, and the sebaceous or oil glands. These fulfil the *secreting* and *excreting* functions of the skin, in which they are embedded in close curls; if drawn out straight it is computed that they would measure the astonishing length of *twenty-eight miles!* The sebaceous glands secrete the oil which nourishes the hair of the body. The sweat glands secrete and excrete part of the waste or deleterious matter of the body from the blood. In an adult there are from one to three or four pounds or pints of water and waste matter, according to circumstances (and much more during severe exercise), taken from the body by the action of the skin in twenty-four hours!

We must remember that all perspiration from the pores is not *visible*. When the body is at rest much of this moisture passes through the outer layer of scarf-skin to such an extent only as to keep the skin soft and pliable; this is called *insensible perspiration*. If this were not exuded we should have the skin in the dry burning condition it presents in fever, when the skin is said not to “act.”

5. The function of the skin in *regulating the temperature* of the body is very interesting and curious. We have seen that this wonderful organ contains millions of little sweat tubes and nerve ends; it also contains a complicated network of blood-vessels.

We must remember that the *area* of the skin is larger than we may at first suppose. The skin of an adult, if stretched out flat from all parts of the body, would measure about fifteen square feet or more! Thus we see there is a large area over which this network of blood-vessels is spread. In cold weather—or from the action of cold water—these surface blood-vessels contract—*i.e.*, grow smaller and hold less blood; less sweat is also excreted. Therefore the blood is not brought in so large a quantity to the surface, the sweat does not evaporate to such an extent, and the heat of the interior of the part is preserved.

Exactly the reverse takes place under conditions of warmth; then the blood-vessels dilate, more blood is drawn to the surface and distributed through the enlarged vessels, and from being spread out, as it were, it cools more quickly. A homely illustration of this may be seen when people in a hurry to drink a cup of tea pour it out of the cup into the saucer, in order, by spreading out the hot liquid, to cool it more quickly. In this way the vital internal organs are protected from too great extremes of either heat or cold. Besides this, the fat, which is to a certain extent present in the true skin, is a non-conductor of heat, and also serves to prevent the loss of internal heat, and the entrance of external heat or cold.

6. The skin has hardly any respiratory power, but nevertheless to some extent what are called "gaseous exchanges" do take place through the skin as well as through the lungs. Carbonic acid gas is exhaled from the skin, and oxygen is absorbed by it, though of course to a far smaller extent than through the lungs in breathing.

Thus we see that the skin is a very important organ of the body, and therefore its clothing (*i.e.*, that worn in direct proximity to it) is an important matter from a hygienic—or health-preserving—point of view; but to fully appreciate the necessity for proper clothing, we must also understand something about those vital functions, the production, dispersion, and preservation of *animal heat*.

Clothing has nothing to do with the *production* of that heat. A dead body clothed in all the wool in the world would remain as cold as stone.

"The heat which is produced in the body arises from combustion, and is due to the fact that the oxygen of the atmosphere taken into the system is combined with the carbon and hydrogen of the tissues; the waste of the tissue must be repaired by the supply of food material, and therefore for the production of heat it is necessary to supply food."*

Animal heat is therefore generated by a chemical combination between the food that we eat and the air that we breathe. It may seem hard to understand how cold food

* It must not be forgotten that *exercise* increases these combustion processes, and is an important means for increasing animal heat.

and cold air can generate heat, but we must remember that a chemical combination of certain elements will produce heat from cold material, as when we mix cold water and cold oil of vitriol we get a liquid so hot that the hand cannot be borne in it. Of course, the production of heat in the body is of a different and much more complex nature than this, but the illustration may serve roughly to give an idea of how heat can be evolved from cold materials. Physiologists tell us—

“It is not necessary to assume that the combustion processes, which ultimately issue in the production of carbonic acid and water, are as simple as the bare statement of the fact might seem to indicate. But, complicated as the various stages of combustion may be, the ultimate result is as simple as in ordinary combustion outside the body, and the products are the same. The same amount of heat will be evolved in the union of any given quantities of carbon and oxygen, and of hydrogen and oxygen, whether the combination be rapid and direct, as in ordinary combustion, or slow and almost imperceptible, as in the changes which occur in the living body, and since the heat thus arising will be distributed wherever the blood is carried, every part of the body will be heated equally or nearly so.”

The body is in fact a kind of slow-fire, in which wet material, instead of dry coal, is burned. But slowly as this wet material in the body burns, it nevertheless, in the aggregate, produces an enormous amount of heat. It is a proved physiological fact that an adult in an ordinary day's work generates as much heat as would raise six gallons of ice-cold water to boiling point!

So much for the *production* of heat, now as to its dispersion and preservation.

When we know what an enormous amount of heat is generated in the body in twenty-four hours we can see that unless a great proportion of it is got rid of, the body would be quickly burnt or boiled out. This surplus heat is dispersed in four ways by—

1, Radiation; 2, Conduction; 3, from the air-passages; 4, by evaporation from the skin in the sweat.

Radiation is the giving forth of heat from a warm body to a colder one. As a luminous body gives out light,

so a warm body gives out heat; this is the principle of radiation.

Conduction is the process by which heat is conveyed from a warm substance into a cold one. We get into a cold bed, in a short time it has become warm—the warmth of the body having been conducted into the cold sheets, etc., heat to that extent has been *conducted out of it*.

Every breath of air we *inspire*, even if it be in the icy regions of the North Pole, is *expired* at about the normal heat of the body, 98° F. The cold air has been warmed in the body, and in the process has of course abstracted some of the body heat.

But it is by the action of the skin, and the evaporation of moisture from its surface, that by far the largest proportion of heat is lost to the body.

The surface blood-vessels have, as we have seen (pp. 232, 233), the power of contracting under the influence of cold and relaxing under that of heat; the skin therefore is an all-important organ for maintaining what is called the *heat balance* of the human body, which must equally be maintained at the normal temperature of 98.4°, whether we live in an ice-bound Arctic region or in the sweltering heat of the tropics. If the body heat is raised much above this, say to 109° F., for a certain time, life is destroyed; so too if it falls much below it. If the internal temperature fell and remained for any length of time below 86° F., life would cease.*

Sudden and violent changes of heat or cold are dangerous to life. Too great heat will produce faintness, apoplexy, or heat-stroke. Cold, by causing the surface blood-vessels to shrink, and therefore to hold less blood, which is then driven in upon the vital internal organs—lungs, liver, or kidneys—is a frequent and fertile producer of congestion and inflammation of those parts.

The preservation and gradual and equal dispersion of the heat of the body is then extremely important for health, and even for life, and, particularly in cold or temperate climates, this is chiefly accomplished by the agency of the clothing.

* All living creatures have not an equal temperature. Thus the normal blood heat of the swallow is 111° F., and of the mouse 105° F., while the dolphin's is only 95° F. During hibernation the temperature is only 41° F., and hibernating creatures can live until the heat is reduced to 32° F.

The clothing of infants and young children is therefore a *very* necessary matter for careful consideration, because they are so much more seriously and even fatally affected by extremes of heat and cold than grown people. That part of it which is worn next the skin is of course the most important to have of a material which will fulfil the requirements needed by an organ so complex as we have seen the skin to be. Such a material we find in *wool*, which we can easily see to be the *natural* covering for the human body when we know *what wool really is*.

In actual fact, animal wool, fur, hair, horns, hoofs, nails, and the feathers of birds are only modifications (that is, the same thing in different forms) of the *Keratin*, or protective substance of the skin, already mentioned. The soft wool of the lamb, the coarse hair of the horse's tail, the negro's curly crop, the towering horns of the buffalo, the branching antlers of the stag, the peacock's starry train, the down on the cheek of the infant, and the nails on its tiny fingers, are all but different forms of the epithelium or cells which form the outer skin of the body. They are actually *the same kind of substance*, only of different degrees of fineness. Wool then is the *natural* covering for the skin, it is part and parcel of it as it were, and is possessed of all the properties necessary for a healthy covering for a secreting, excreting, heat regulating, and breathing organ, whereas linen and cotton are just the reverse; being of vegetable growth they are not natural clothing for the animal body, and they are possessed of essential qualities which render them unhealthy as clothing for an organ of the peculiar constitution of the human skin. This we see by a comparison of their respective properties.

Wool is a non-conducting material—that is, it does not allow heat to pass quickly through it. Linen and cotton, on the contrary, are good *conductors*,—the reverse of wool in this respect.

Woollen material is very porous. Linen and cotton are only very slightly porous. *Wool is light*. Linen and cotton are heavy if worn in sufficient quantity to produce the same amount of protection that wool would give.

Wool is absorbent in one sense only—that is, it absorbs the

moisture off the skin, but it does not absorb it *into* its *fibre*, which is absolutely unabsorbent and somewhat greasy, and allows the moisture to pass off it, just as we all know water will run off a bird's feathers.

Linen and cotton are so absorbent that they will suck into their actual fibre any moisture with which they come in contact, as blotting-paper absorbs ink.

From what has been already said, we can easily see the hygienic value of the four properties possessed by wool.

(1.) The heat of the body being continually lost by radiation, we should, without clothing (in any but tropical climates), die from loss of animal heat *very* much quicker than from want of food. Wool, being a non-conductor, prevents the innate heat of the body from being too quickly lost, and (an important matter in hot weather) prevents external heat from finding a too ready entrance.

(2.) Of equal importance with the non-conducting property of wool is its *porosity*.

Much of our superfluous heat is got rid of by the evaporation of the perspiration. It is therefore of the last importance for the health that our clothing should be porous, so that the steam, so to speak, of the body may escape through it. If our clothing be not porous, this vapour, instead of passing away from it, will condense upon the skin.

(3.) Light clothing is more healthy than heavy, because it enables the body to exercise without the restraint and fatigue caused by weighty garments. Light clothes may be warmer than heavy ones if made of loosely-woven or knitted woollen material, because *air is a bad conductor of heat*, particularly *stationary* air, such as is confined in the meshes of loosely-woven wool. A thin cloth coat lined with flannel is warmer, for this reason, than one of heavy cloth unlined.

(4.) The fibre of wool being unabsorbent, the vapour exhaled from the skin is not absorbed into it. Linen and cotton not only absorb the moisture of this vapour into their fibres, but, being hardly porous at all, the vapour will not pass through them, it is condensed upon the skin, and when any exercise is taken which induces perspiration

the under garment is converted into a wet sop that is practically *air-tight*, and which (as water is one of the best possible conductors of heat), it has been well said, "clings to you, and sucks out your vital heat with *vampire ferocity*."

The body clothed in linen or cotton is therefore always exposed to that greatest of all risks to the health—a chill striking upon damp. More than half the physical ills that make life a burden come from this deadly combination of *cold and damp*.

There are two objections sometimes made as to dressing a baby in woollen material next the skin, and dressing children in woollen underclothing.

First, that wool is irritating to the skin, and that therefore it is impossible to put such a material next a new-born baby's skin. Secondly, that underclothing of this kind is "coddling."

To the first objection I would say—"Have you tried it?" When this question is asked, the answer usually is—"No, but I am sure it is irritating."

This is all you will generally get from such objectors. I can only say that from *practical experience* I have found that woollen underclothing does *not* irritate even a new-born baby's skin (it must be *wool*, not a harsh mixture of wool and cotton). Practical experience is better than theoretical objection. I have known children (flaxen-haired, delicate-skinned children) who have been dressed entirely in flannel from birth, and who have got through the first year without a cold and have never had a sign of skin eruption or irritation.

As to the second objection, we should remember that the wearing of wool tends to strengthen, not to enervate, the system, *because* the skin clothed in wool is in a more healthy condition than if clothed in linen or cotton; the exhalations from it can pass away freely, the pores are not choked up as they are when the free passage of these exhalations is impeded by the clothing preventing their escape. Thus the surface blood-vessels are able to act freely, and the skin, being in a healthy condition, can resist chills. Surely no one will argue that it is strengthening to be constantly laid up with colds. A child has certainly a better chance of growing up to be a strong man or woman whose

childhood has been seldom or never spent in a sick bed.*

To surround children with all the conditions best calculated to secure health is *not* to "coddle" them, and those who have sense enough to dress their children rationally will also have sense to see that their lives are passed as much as possible in the open air, and that they live in well-ventilated rooms. Under these conditions a child can never be "coddled." It is living in-doors, in shut-up, overheated rooms that really "coddles" both children and grown people, and makes them like exotic plants destroyed by a rude touch of wholesome fresh air.

Having now combated, I trust successfully, the prejudices as to the value of the linen shirt for infants, and shown that it can be scientifically proved that wool is best for their under-wear, I must proceed to take by storm a position resolutely held by an overwhelming force of monthly and children's nurses. That, namely, of the necessity for the infant's tight binder and swathe, and for long "robes."

That a baby's middle should be tightly bound by a swathe is a common nursery tradition. There are actually nurses who think that the large abdomen of the young infant comes from some swelling that requires to be kept down by tight binding! There are others who think the baby should have its figure *preserved* by the binder and stiff-stitched bodice, as the Frenchman endeavours to preserve his by the use of stays!

Of course such ideas are only held by those who are completely ignorant of anatomy, physiology, and the internal economy of the human body generally. As, however, even an elementary knowledge of these subjects is not considered necessary for women whose special province it is to have the care of young children, we can hardly wonder at the persistency with which many nurses will continue to treat the infant's body as if it was a sawdust-stuffed doll, and not a flesh and blood organism that is rapidly growing and developing.

Now the *reason* why such treatment is very injurious to a baby is simply this. The abdomen (belly) of an infant for

* If a child clothed in wool catches fire, it has a much better chance of escape than one clothed in linen or cotton.

some time after birth is large from two causes. One is that the *liver* at birth is very large, much larger in proportion to the body than the liver of a grown person. The other reason is that the *pelvis* (from the Latin, *pelvis*, a basin—*i.e.*, the bony cavity formed from the lower part of the spine and the pelvic bones, which unite in front and form a kind of ring) and the cage of the ribs are small, and there is not room within them for the liver and other internal organs to fit without causing a protuberance; therefore they project, and cause the large abdomen of the young baby. As the child grows, these bony parts expand, and by degrees give space to accommodate the internal organs of that part of the body, and the large abdomen gradually disappears. For a baby to have a *flat* belly would then be a sort of deformity. To put a tight binder on to compress this protuberance will, when we understand *why* it protrudes, be seen to be a mischievous barbarism.

Compression of any organ of the body which requires free play to perform its functions properly must be productive of mischief. What organs require freer play than the liver, lungs, stomach, and intestines? Yet these are just the organs compressed by the binder if it is put on tightly, and just as indigestion can be brought on by tight lacing, so it can be brought on the infant by tight binding. Many babies vomit after every meal merely because the stomach (which is situated at the left side, above the waist, under the heart) is so compressed that it will not hold the overplus of milk the child has taken.

A young infant's stomach is very small, it holds but little at a time. When it is compressed by the clothing it will not hold its proper complement; for we must remember that the stomach is a kind of bag, capable of compression and distension.

There is another idea about the use of the binder and stiff bodice which it is almost impossible to root out of some women's minds, and that is that these things are necessary in order to support and strengthen the infant's spine and back! One cannot get them to believe that an infant will thrive and not become a confirmed hunchback if deprived of binders and bodices. Now binding and bandaging can no more make a straight-backed child than they can make a

tall child. When children grow straight who are treated in this manner it is in spite, and not in consequence of it. For the simple reason that it is one of Nature's laws that for the growth of muscle there must be, in physiological language, "a constant alternation of active contraction and rest, and an enforced protraction of one or the other leads to the loss of vital properties."

When the muscles of the back are bound up tightly, they are prevented from alternately contracting actively and resting. They are compelled into a state of continual rest and compression, and the result is, as it always is with any muscle denied free exercise, that it atrophies, or wastes more or less. It is for this reason extremely injurious to allow growing girls to lace tightly. Many a young woman's "weak back," which she tries to alleviate by an ever-tightening stays, has been simply *caused* by this instrument of torture. What is really necessary to make the infant's spine straight and strong is to support it when the child is held up, and to keep the child as much as possible in the horizontal position until it can sit up of itself.

But there is yet another injury done to a vital function by the tight bandaging of infants and tight lacing, and that is to the breathing power. The diaphragm (the muscle which divides the chest from the abdomen) is often so tightly bound by the clothing of infants, and by stays, that a deep breath cannot be drawn, and therefore the victim cannot draw into the lungs sufficient air to properly oxygenate the blood. *This* is a serious injury to health, and may lay the foundation of infinite mischief.

Nature's handiwork is not so imperfect as to need our implements to complete it. This, again, I can assert from practical experience—that banding, binding, and bodices are *not* needed to make straight spines, and that those children thrive best in every way whose clothing is loose enough and short enough to allow of the free exercise of their limbs.

For the first few days after birth the swathe should be only just tight enough to keep the navel pad in place, and this it can do without compression.

The nicest possible binder for a baby is that used by Europeans in India. It is made of two strips of fine soft

flannel, 6 or 7 inches deep. The first strip is 26 inches long, the second 16 inches; the middle of the second, or shorter strip, is stitched exactly into the middle of the longer strip; thus it makes a sort of double swathe. To each end of the shorter strip are stitched four bits of soft tape; the longest strip comes next the child's skin, and is folded round it, then the shorter strip comes as the outer layer, the tapes are tied, and the swathe is in place without any need of pins, stitching, or fear of compression.

A very good swathe is also made of white Berlin wool, knitted like a garter—backwards and forwards on two needles—about six inches deep. It has the advantage of being very elastic and yielding.

Now as to the length of the “robes.”

Why it is considered necessary to put on a tiny infant a sweeping gown many times longer than its little body I have failed to discover. That the “long clothes” should be long enough to wrap the feet up warmly is one thing, and a very necessary thing, but it is quite another to make them so long that the infant's legs are weighed down by them, and prevented by this weight from taking the free muscular exercise so necessary for the proper development of the body.

There is a “wrong-headedness” in the way some people manage babies that is truly astonishing. They weigh the infant during the first two or three months with skirts enough for three babies, and then, just as the critical period of teething is approaching, these are cropped short, the flannel swathe is removed, and the child is left with as too little clothing of the nether limbs as it formerly had too much. In some cases the arms and neck covering is also docked short also, so that the chest may enjoy a free exposure to cold.

Is it any wonder that the death-rate of little children should be so disgracefully high? There are people even still who harbour the old notions about “hardening” children by exposing them to cold. They never seem to remember that we grown people could not with impunity go about with bare arms, legs, necks, and chests. Why on earth then should we make our little children do it?

Children *have not* the same power of resisting cold that

grown people have, and it is in consequence of exposure to it by ignorant people that so many of those who survive such treatment only survive as *stunted* creatures.

A celebrated chemist, Baron Liebig, has said that clothing is, with reference to the heat of the body, merely an equivalent for a certain amount of food. When the production of the natural heat is interfered with we have an imperfectly developed being, and this interference can be caused by an insufficient supply of either food or clothing. If our feeding is deficient, no amount of clothing will maintain our temperature at the normal degree; and if our clothing is insufficient, no amount of feeding will, in our climate, compensate for its loss. From this knowledge we gain an important lesson as to the value of warm (not weighty) clothing for the young.

We may compare the growth of the body to the building of a house. If you have twenty men and a certain quantity of material for building a house, and you take away a third of the men and material and put them to other work, it is obvious that the building will go on much more slowly and result in a smaller edifice.

So with the body. It is built up out of the tissue-forming elements of our food. If the digestive organs have to supply a very large quantity of heat-forming elements to make up for the loss that is sustained by radiation when the body is much exposed to cold, it stands to reason that they cannot also supply as great a quantity of tissue-forming elements as they would do if so much heat-forming work were not required of them. No organs can do more than a certain amount of work, and if we compel them to make heat it is at the expense of their making tissue; the natural result is that the body becomes stunted. It is in this way that the races which inhabit Arctic climates come to have so diminutive a stature. Another physiological fact that it is very important not to lose sight of is that *cold injures the nutrition of the bones*. If we want sturdy legs on our children we must keep them warmly covered in cold weather. (*Note*.—"Rickety" children are peculiarly sensitive to cold, which is very injurious to them. When children have weak legs and ankles they should wear long woollen stockings, and gaiters when out of doors in cold weather.)

The time at which the flannel swathe is removed is a debatable question with some mothers. It ought not to be so. The time to leave it off is when teething is over.

It is far safer to keep the flannel swathe round the infant's abdomen for two years.

This is a critical period. During teething there is always a tendency to cold in the bowels. Sensible people will keep the protection of the swathe till it is over.

As to the shape of infant's clothing much trouble will be saved by having, instead of the ordinary shirt, little knitted vests of the shape of a sailor's guernsey. These can easily be made by most people, or can be bought for sixpence at any draper's. The health value of loosely knitted wool has been pointed out. They have also the advantage of being slipped over the head in a moment. If the dresses and petticoats are made to *open down the front* it will enable the child to be dressed much more easily and quickly than when, as in the ordinary way, some of the garments open behind and some in front. There is as much twisting and turning in the dressing of many a baby as there is in the making of a roly-poly pudding. When this is accompanied, as it so often is, by continual screaming, the "babe in the house" often loses its title to being what Martin Tupper said it was, "a well-spring of pleasure."

The clothes must of course be made to open the whole way, and may be fastened by buttons or strings, the edges being made to overlap well so that the child cannot kick through them. If these garments are laid into each other, the infant, when the swathe and vest are on, only needs to be laid into them, the fronts fastened, and the dressing is complete without even one turn or twist.

The time for "short coating" should depend on the weather and the child's health, not on any fixed rule of thumb. *Never* shorten the clothing suddenly in cold weather. Enough has already been said to show the danger of this. If the gowns are not too long to begin with the child will almost "shorten" itself by growing out of them, and a small tuck from week to week will accomplish the shortening of the clothing *gradually*, so that

the process will be completed by the end of the third month. If the weather be very cold, and the child delicate, it had better be delayed till the end of the fourth month.

Caps for babies have quite gone out of fashion, very wisely, as they are unnecessary; but the "head flannel" (a square of fine flannel embroidered according to fancy) is useful to throw over the head going from one room to another, and it is always well to include it in the "layette."

It is sometimes thought, even by people who appreciate the importance of woollen underwear, that it is not necessary for children's *night wear*. This is a mistake. It is most necessary at night. A frequent cause of cold is uncovering at night. Children frequently kick off their bed-clothing, and if they wear the ordinary night-gown, may often be found with it gathered nearly up to their necks, so that the body is quite stripped. Sleeping suits are much better than night-gowns, or the end of the gown may be stitched up or fastened with strings, so that the child cannot get out of it. In all cases night-gowns should be made double-breasted, so that the lungs (which are as assailable by cold behind as before) may be protected. Some people forget this fact about the lungs, and actually make night-gowns to open down the back in order that the chest may be protected!

An old saying tells us if we want health we are to "keep the feet warm with exercise and the head cool by temperance."

This is very true and excellent advice, no doubt, but the feet and head must also be kept at a healthy temperature by common-sense clothing. How often we see little children with thin patent leather shoes, short white cotton socks, and large plush bonnets that completely envelop the head and ears, all worn at the same time, irrespective of the weather! Is there any sense in such clothing? Even with exercise the feet can hardly be kept warm in such a case, and certainly even with temperance the head can hardly be kept cool.

Patent leather shoes should never be worn by children, they prevent the expiration of the skin of the foot from escaping, and are very unhealthy. Unless in warm weather,

boots are better because warmer than shoes, and they should be made of kid or soft leather.

Of all things parents should see to the *shape and fit* of children's foot gear. Remember that children are growing creatures. It is wicked cruelty to let the little creatures wear tight, narrow-soled boots. The crumpled-up, deformed toes, corns, and bunions that would be so often seen if naked feet were visible are *always* the result of boots that do not give free play to the *toes*. The natural shape of the foot is more pointed at the heel than the toes, but the artificial vagaries of the boot-maker delights to reverse nature, and to cramp five movable toes into a space capable of holding two.

When people are grown-up let them decide for themselves; but helpless little children, who are obliged to wear what is put upon them, should not have a future life of suffering from distorted feet laid in for them by the carelessness of their parents and guardians.

In the dressing of children it should always be borne in mind that *early youth is a time of quick growth*, and every limb and joint should have free play. Compression cannot do the same amount of mischief when growth is complete that can be done while it is in progress.

Except in extraordinarily cold weather, hats, straw in summer and felt in winter, are better for children than bonnets that cover the head completely and make the ears delicate. For infants the hoods and bonnets usually sold are all that can be desired.* The best kind of *veil* for a baby or young child is gauze. Spotted net should not be used, it is bad for the eyes, and of all things the infant's face should *never* be covered with a pocket-handkerchief, such as one so often sees used as an extempore veil. Under this the child is obliged to breathe in again the air it has already breathed out, which is therefore laden with carbonic acid gas, and is very injurious.

For summer, straw hats with *high crowns and broad leaves* are most necessary.

* The elastic of children's hats is sometimes so tight as to thrust their ears forward. Standing-out ears are very ugly, and should be guarded against. Cotton or lace hats that flap into the eyes should be avoided, as they may injure the eyes.

Never forget, in the care of children, that sun on the head is *extremely* dangerous to them. It sometimes leads to meningitis (inflammation of the brain), or other serious mischief. In warm weather a cabbage leaf in the crown of the hat is very useful when children are playing out of doors.

I have now said a great deal as to the need of warm clothing for infants and children. Let me, however, warn mothers against going into extremes and dressing children *too* warmly, which is sometimes done. It is very bad for children to be over-weighted with clothing, or so warmly wrapped up that they cannot exercise without getting into a bath of perspiration. Heavy cloth coats, with small arm-holes and narrow chests, into which the child is skewered, as it were, or heavy capes which pinion the arms, prevent free exercise, and any clothing which does this or over-heats the body should be carefully avoided.

The best way of all for managing the clothing is by the use of the thermometer. Every nursery should have a thermometer outside the window and one inside. They cost but tenpence or one shilling each, and in this changeable climate it is most important to dress children by the actual weather, not by the season. A glance at the thermometer every morning is better than long discussions as to regulating the clothing for the day.

The following list of what is necessary for a baby's layette may be useful. It is amply large. There is no need for providing the enormous number of articles sometimes thought necessary, and which cannot possibly be worn out by one baby.

These things, if made of flannel or wool, will last *at least* a year.

Six swathes.

Twelve shirts.

Six flannel petticoats (*i.e.*, inside gowns).

Six flannel day-gowns. (Two extra fine ones for dandy occasions may be useful.)

Six night-gowns.

Three dozen diapers. There is a fine woollen material now made for baby's diapers. If, however, it cannot be had, the next best thing is soft Turkey towelling, which is specially made for the purpose.

(*Note.*—Never cover the baby's diaper with macintosh; it is very injurious to the child, as can be easily understood.)

Two or three knitted woollen jackets to go over the gowns. These are delightful little garments for babies in cold weather.

A warm shawl (knitted is much the best) for wrapping.

Two head flannels.

Six pairs of wool stockings, knitted or crocheted. (These generally come in shoals when a baby is expected.)

Hood, cloak, etc., for outdoors.

In conclusion, I must say one word in defence of the *appearance* of flannel baby clothing. It need *not* be ugly. Soft pure white woollen material is now made for this purpose; also wool lace, and silk or "flourishing cotton" for embroidering. Therefore the sanitary layette can be trimmed and embroidered to the heart's content, and can look as pretty as the most insanitary one.

While adopting woollens for baby clothing there is no objection to having some white cambric gowns to wear over the others as an outside garment, but if the woollens are prettily made and *properly washed* these will hardly be needed.

This matter of the washing of wool has done much to create a prejudice against the wearing of it. Many people think flannel is very difficult to wash, whereas it is easier to wash than cotton or linen, if it be done properly. Badly-washed flannel is abominable, hard, shrunken, and yellow, and from having nice flannels reduced to this state by incompetent treatment, many people have come to the conclusion that wool cannot stand washing at all, so in despair they give up the wearing of it.

Woollens *must not* be washed in the same way as cottons or linens.* The process is very simple, however. Finely shred some good soap (not coarse common soap, largely made of soda, which is a strong caustic that destroys wool) in the proportion of about half a pound to a gallon of water. Pour over this the water, boiling, or put it and the water to boil together. Stir well to dissolve the soap and

* If soap is rubbed on woollens the fibres of the wool become knotted, and the flannel is rendered hard.

make a good lather, and let it stand until cool enough to bear the hand in it. Then, having shaken the flannels quite free from dust, put them in, and sluice them well up and down, not rubbing, but squeezing and working the flannels till they are clean. Then rinse in plenty of warm water till all the soap is out. If possible put them through a wringer, but if this cannot be had *do not twist*, but squeeze the water out (twisting woollens breaks the fibre), and hang to dry in the open air, but not in a strong sun. Before ten in the morning in summer is the best time for drying woollens, as the sun is not then so powerful. Drying them in a hot sun, or very near the fire, causes shrinking. Ironing should be on the wrong side, with a not too hot iron, and with a muslin between it and the material.

Note.—Remember the importance of well-airing children's clothing.

CHAPTER V.

INFANT FEEDING.

"A large proportion of the diseases of early life, some of the most fatal, and some of the most lasting in their influence, have their origin in errors of diet."—*W. H. Cheadle, M.D., Senior Physician to the Hospital for Sick Children.*

THE body requires food for three principal purposes—

1. To replace wear and tear which is continually taking place in body.
2. To generate heat.
3. To supply mechanical energy for muscles, heart, etc.

In order to produce these results the food must be *digested*—that is, it must be converted into soluble material by the chemical action upon it of the ferments secreted by the glands of the alimentary canal and stomach, so that its nutritious parts may be absorbed into the blood. Now, the body of a new-born baby is in a very undeveloped state, its functions are in an imperfect and rudimentary condition, and so also are these important ferments belonging to the digestive apparatus. They have not those powers which they afterwards acquire.

If we understand this, we have the key to the whole subject of successful infant feeding. The immense death and disease rate of the young children of the poor is largely due to ignorance of these facts. One of the principal agents by which we digest our food is the saliva secreted by the salivary glands opening into the mouth. This is not a simple fluid; it consists of three distinct fluids coming from different glands, and holding in solution a remarkable substance called *Ptyalin*, which possesses peculiar properties. It has no effect upon nitrogenous food—*i.e.*, meat, eggs, poultry, fish, and the albumen and

casein in milk and cheese. Upon these and fats ptyalin has no effect, but it has the remarkable property of being able to convert *starch*, which of itself is quite insoluble and innutritious, into a highly soluble and nutritious form of *sugar*.

In the new-born baby these salivary glands have a very feeble action. When, however, the teeth begin to appear, the salivary secretion—containing ptyalin—immensely increases, one of the first symptoms of teething usually being dribbling.

If we understand this, we can see what we are doing when we put starchy food into a young infant's stomach before it begins to cut its teeth.

All farinaceous foods are starchy.

Corn flour and arrowroot are almost all starch. Bread, potatoes, and meals all contain a large proportion of starch, and such food is, according to the best medical authorities, simply an "*irritant poison*" to a young baby, as we can very easily understand when we know the physiological facts just mentioned, because the infant has not the requisite materials in its system for the complete digestion of this class of food.

Convulsions in infants are more often caused by indigestible food than by anything else, and most of the deaths from this cause that are put down to "teething" would, if inquired into, be found to be caused merely by *stuffing with indigestible food*.

The cardinal principle in the feeding of infants is to follow the teaching of Nature, and keep to the food supplied for all young animals—*milk*. It is from the ignorant notion that milk does not contain sufficient nourishment to support a baby's life that the practice arises of supplementing it with all sorts of utterly unsuitable things.

As a matter of fact, milk contains not only everything necessary to support life, but everything specially needed for the healthy development of the growing bony structure of the infant's frame, as well as its flesh and blood.

Food which is to supply the materials for carrying on the vital processes of life, and to repair the constantly wasting tissues of the body, *must* contain five essential elements. They are—(1), water; (2), proteid or nitrogenous elements;

(3), starch or sugar (carbo-hydrates); (4), fats (hydrocarbons); (5), salts (mineral elements).

Water.—Without water the other elements could not be dissolved so as to be digested and absorbed into the circulation, therefore water is a most important constituent of every kind of food, and nothing edible is entirely free from it.

Proteids.—Under this head are included the albumen and casein found in meat, milk, fish, legumes, cereals, eggs (the white of an egg is pure albumen), and in a lesser degree in green vegetables. These form the proteid or nitrogenous elements of food, and rank first in importance, as upon them the building up and repair of the tissues of the body chiefly depend. The value of the nitrogenous elements in food is well described by Dr. Cheadle thus: "They are used for the structure of brain, nerve, muscle, and gland. Protoplasm, the centre of life and energy in every individual cell, is formed of nitrogenous matters, and nourished out of them. Every structure in the body in which any form of force is manifested is nitrogenous. Nitrogen is indeed essential to every vital process. Deprived of it, every function of the body languishes—all vigour and power dwindle and die out."

Fats.—The hydrocarbons rank next in importance to nitrogenous elements. "Fat is wanted for every tissue formed and forming, especially for brain and nerve cell, and for the marrow cells. In children who are fed upon a deficient amount of fat the bony structures are imperfect and slow of growth; in a word, deficiency of fat in the food (of infants) is one of the chief factors in the production of rickets" (Cheadle).

All bodily tissue, bone, brain, and muscle is made up of cells which abstract from the blood the matters required for their nourishment, and of these *fat* ranks next in importance to the nitrogenous, and is a great source of animal heat. It must not be supposed that fat exists only in meat. Milk is an emulsion of fat, which also exists largely in the yolk of eggs, in butter, cheese, oatmeal, fish, olive oil, etc.

Starch, or *sugar*, plays an important part in the production of heat, and also assists in the repair of bodily tissue.

Salts.—The mineral elements coming under this head include lime,* potash, phosphorus, common salt, and iron, and are important for supplying the hardening matter to the bones and teeth, for purifying the blood, and in assisting in the production of the digestive secretions.

Every one of these five absolutely essential elements of food we find in MILK; thus it is a *complete food*.

"Milk is an absolute and complete compendium of all essentials of food," says Dr. Cheadle. "It is perfect in all points."

Why then give an infant anything else?

Upon *milk alone* a baby will grow and thrive, will make firm flesh, hard bones, and a sound constitution; whereas, when its ignorant guardians think they are wiser than nature, and put things into its stomach that it cannot digest, and which do not contain the same elements of nutrition, it will probably grow rickety, perhaps scorbutic, will pine and waste, and grow flatulent and dyspeptic, just as we grown people would do if sawdust or some such stuff formed a part of our dietary.

Milk, therefore, is amply sufficient for every baby until it has cut at least a couple of teeth; but when this is acknowledged, the important question arises, "What sort of milk?"

In general this question can be answered shortly, "Its mother's milk;" but this short answer will not suffice in every case, because many mothers cannot nurse their own

* The value of milk as the food above all others that will supply a young child with the lime which it must have for the bony part of the frame has just been testified to in a remarkable manner by a well-known authority on physiological chemistry, Professor Bunge, of Basle. He says: "Saturated lime water contains less lime than cow's milk. In one litre of cow's milk I found 1.7 grammes of lime; in one litre of lime water, 1.3 of lime. Next to milk the yolk of eggs has, of all food stuffs, the most lime." Both of these have also a large supply of *fat*, which is so important for the prevention of rickets. A curious experiment, which proves that the infantile disease, *Rickets* (which results in a softening of the bones, leading to stunting and distortion of the body, and bow legs from the pressure of the heavy body on the softened bones), can be produced even in animals by want of milk, was tried some years ago. Several puppies in equally good condition were being suckled; half of them were taken from the mother and fed on raw meat. Although this may appear suitable food for the young of carnivorous animals, it did not prove so; the puppies pined, their limbs bent, and at the end of four months they had developed all the symptoms of confirmed rickets.

children, and others ought not to do so. Some have not a sufficient supply, some may inherit a tubercular taint—a tendency to cancer, nervous disease, etc., which should absolutely forbid wet-nursing; others may find the strain on the health too great. The next best thing undoubtedly is a wet-nurse. No process can make the artificial equal to the natural, and the best hand feeding can never be as good as the best wet-nursing. Dr. Charles West, the founder of the first children's hospital in England, and one of the highest authorities on the rearing of children, says—

“With whatever care an infant may be surrounded, it is a fact never to be forgotten, that the chances of a hand-fed infant reaching the age of one year are one-third less than those of a child nursed by a healthy mother. A very striking evidence of this is afforded by the statistics of two French foundling hospitals.

“The children admitted into the Foundling Hospital at Lyons are sent immediately into the country and are wet-nursed; their average mortality is 33 per cent. under one year. In the Foundling Hospital at Rheims the infants are attended with equal care, and are as speedily sent into the country—the same day,—but they are brought up by hand, and their mortality is 63 per cent.”

Surely these are significant figures!

Nevertheless, in numberless cases it is impossible to procure suitable wet-nurses. They are always expensive and troublesome, and in some cases very unsatisfactory. Unless selected with care and with the approval of a medical man, the wet-nurse may be a source of positive danger to the child; therefore, the question of artificial infant feeding (bottle feeding) is one that must necessarily occupy a large share of the attention of mothers of families. Fortunately, if undertaken with intelligence, it may be perfectly successful in rearing a thoroughly healthy child.

Now, many cases occur in which the mother could partly nurse her child for eight or ten months—that is to say, she has some milk, but not enough to stand the strain of suckling every two or three hours during the twenty-four, so she gives up nursing altogether, and puts the child “on the bottle,” because she is told that it is bad to “mix the milks.”

This is what Dr. Cheadle says on the subject—

“A superstition still survives amongst nurses and matrons that the cow's milk and the mother's milk do not agree, as if they quarrelled in some curious way within the child's body, and fought it out there to its great discomfort and damage. But this is a pure fallacy. The cow's milk may disagree with the child, but not the mother's milk if it is healthy. All that the child can get of this is pure gain—half a loaf is better than no bread. The fact of the child having so much of the best and most nourishing food will in no possible way interfere with its power of digesting cow's milk. It may be that the child has not digestive power enough to deal with cow's milk, but this is all the more reason why it should have as much mother's milk as it can get, which it *is* able to digest. It cannot be stated too strongly that a healthy mother should suckle her child, even if only able to give it a partial supply, to be supplemented by artificial means.”

It is surely better to be guided by an authority like this, who has made the subject of infant feeding one of scientific study and practical experience for many years, than to listen to the mere opinions of people whose experience and knowledge are extremely limited.

Dr. Cheadle also adds this useful hint: “When the bottle has to be resorted to in addition to the breast, the best way is to give it at equi-distant intervals of time—if twice in the twenty-four hours, then at intervals of twelve hours; if four times, every six hours, *i.e.*, every third time of feeding; or if necessary, alternately. This plan is far preferable to that of giving the bottle at night and the breast only in the day-time. The breast milk accumulates during the night, and the child gets a sufficiency or an excess the first meal in the morning, during the day a deficiency.”

The same “superstition” also exists as to the importance of giving “*milk from one cow.*” It is now also an exploded superstition, as all the best medical authorities agree that the mixing of several milks cannot injure a baby in the smallest degree—provided the cows are healthy, indeed, it is safer for the child than depending altogether on one cow, which may be sometimes out of sorts. In actual fact

people seldom really get the milk of one cow, in spite of the dairyman's promises.

Whether bottle-feeding is to be wholly or partly adopted, its success will depend on the care and intelligence with which it is undertaken. It is *not* a very easy matter to rear a baby on artificial food. It requires *constant* care and watchfulness. There is hardly any matter in which carelessness will be so swiftly and surely punished.

It is well known that the mortality of children is immensely greater during the first year of life than during any other, and that their deaths under one year are more frequently caused by stomach and digestive derangements than by anything else, naturally, because the whole digestive tract is extremely sensitive during the early months, and easily thrown out of order by treatment that goes against nature; therefore, no care can be too great in order to land the infant safely through this critical time, especially when deprived of the nourishment provided by nature. In bottle-feeding these three things are *absolutely necessary*—

1. To follow nature as closely as possible in the food supplied.

2. Scrupulous cleanliness.

3. Punctuality and order.

The first of these points particularly demands intelligent consideration—the secret of successful bottle-feeding lies in it.

To follow nature in this respect, we must make animal's milk resemble human milk, we must therefore understand the difference existing between them. An analysis of the composition of several milks will enable us to do this. In 100 parts of milk we find—

	Human.	Cow.	Ass.	Goat.
Casein (Nitrogenous Element)...	2.45 ...	3.34 ...	1.70 ...	4.20
Fat (Hydro-carbon) ...	3.10 ...	3.53 ...	1.55 ...	5.80
Milk Sugar (Carbo-hydrates) ...	6.70 ...	4.75 ...	5.80 ...	4.94
Salts ...	.30 ...	.75 ...	.50 ...	1.00

—McKendrick.

The remainder of the 100 parts in each is made up of water. From this we see that human milk contains less casein than cow's milk, but more than asses'; rather less fat than cow's, but much more than asses'; more sugar and less salt than either; and that goat's milk is the richest

of them all. The most important difference between the milks, however, does not appear in the analysis. It consists in the *quality of the casein*.

Casein is that part of the milk which, on the addition of rennet or an acid, is turned into curd.

In the *quality* of the curd of cow's milk and that of an ass, goat, or human milk, exists an essential difference. It is not perhaps complimentary to humanity, but it is a fact that the milk of the ass most nearly approaches that of the woman, and it is in this important point, *that of the quality of the casein*, that it does so; and next to it in this respect comes that of the goat.

The casein of milk when it reaches the stomach is converted into curd by the action of the gastric juice. The casein in cow's milk is turned by this gastric juice into a firm hard curd, which, in its natural state, it is almost impossible for an infant—who does not possess the four stomachs and the power of regurgitation and rechewing of the calf—to digest. The casein in human and asses' milk is converted into quite a different kind of curd, which is of a soft, light, flaky nature, readily acted on and dissolved by the gastric juice, and therefore easily digested and absorbed. The casein of goat's milk is also of a much more flaky and easily digested kind than that of the cow. The whole difficulty in the feeding of babies with cow's milk lies therefore in this matter of the *casein*; to make this like the casein of mother's milk is the very first object to aim at when bringing up infants by hand on cow's milk. If this can be done, it will usually be found a better food than asses' milk, because the latter, though its curd is easily digested, will be seen by the above table to be poor in nitrogenous (flesh-forming) material, and very poor in the essentially important element of *fat*. After the first few months it is often noticed that children do not grow vigorous upon it, and it sometimes causes diarrhoea, though boiling it helps to prevent this. It is also an expensive milk, and in most places quite unprocurable. If goat's milk can be had it will form a valuable food, being very rich in nutritious elements, and having a more easily digested curd than cow's milk. Goats should be much more popular than they are in England; they are easily kept, and will eat leaves, bread, potato parings, etc.,

besides grass, so they can be economically fed, but the trouble is that they only give milk for about four months at a time.

Cow's milk, being always within reach, is of course what the great majority of people must fall back upon.

The popular means for dealing with the casein of cow's milk is by the addition of water; this decreases the amount of casein certainly, and brings it down to the quantity found in human milk, but it does not alter its *quality*; but if *barley water* is used it will be found to effectually prevent the formation of the tough indigestible clotting of the cow's milk casein. A simple experiment will show this.

Boil, stirring well, a teaspoonful of vinegar with a teacupful of cow's milk. The curd will form a tough mass like a ball of stiff putty, which can with difficulty be pulled asunder with the fingers. Then boil a teacupful of milk mixed with half that quantity of barley water and a spoonful of vinegar. As it gets hot a light flaky curd will form and gradually disappear as stirring is continued, and you may boil till you are tired but you will never get the ball of putty-like clot that formed in the pure milk. Of course this is only a rough illustration, because the gastric juice is not quite like vinegar, nor does boiling take place in the stomach, but it serves very well to show the nature of the casein of cow's milk, and what an injurious thing it must be to give such milk pure to infants. It also shows the great value of barley water for diluting the milk. The barley water for infant's feeding must be thin, and *very* well boiled, otherwise the slight amount of starch in it will be indigestible, but *thorough boiling* renders this digestible even for an infant.*

But besides in the quality of the casein, another important difference between human milk and that of the cow is that the former is always alkaline, while the latter is only so while it is quite fresh, but becomes more or less acid after standing for some hours. The milk of cows kept in stables is also always more acid than that of grass-fed animals. By testing with *Litmus paper* we can easily discover acidity in milk, even when it is not appreciable to the taste. Procure

* A pinch of gelatine or isinglass dissolved in water answers as well as barley.

some neutral Litmus paper * from the chemist's, put a drop or two of milk upon a strip of it, after a few seconds wash it off with water. If the milk is alkaline the blue litmus paper will show a deeper blue stain; if acid, there will be a red stain on the paper.

In order to prevent this acidity (which is the beginning of putrefactive change that causes diarrhoea and all sorts of the digestive derangements so fatal to infants) the milk should be boiled as soon after milking as possible. In cities where the milk can only be obtained from dairies, and therefore a considerable time after milking, it should be boiled directly the milkman delivers it. A prejudice against boiled milk is in some minds as strong as that combated in the last chapter—against woollen and loose underclothing for infants; but it is a prejudice of ignorance, which every one who has the charge of a family will do well to get rid of by understanding *why* the boiling of milk is so necessary.

To understand this we must first know that *milk is a soil in which disease germs thrive with wonderful fertility*. "I once met with a bacterium, but only once," says Sir Joseph Lister, the celebrated bacteriologist, "that would not live in milk; for extremely numerous as the varieties of bacteria appear to be, almost all of them seem to thrive in that liquid."† Now there are numerous ways in which bacteria (disease germs) may gain access to milk. The water with which the cans, pans, etc., are washed may be impure or absolutely contaminated with sewage matter. The hands of the milkers may be infected. The dairy may be dirty or ill ventilated, a drain-pipe may leak into it, or there may be infectious illness in the farm or milk shop (though to hide this is a punishable offence, the law is sometimes evaded). Milk has an extraordinary power of absorbing gases, and if exposed to bad air, foul smells, etc., it will very quickly become impure, and a fine breeding ground for disease

* Litmus paper should be kept in a glass-stoppered bottle, as the oxygen in the air tends to redden it, if much exposed to air, therefore the evidence would not be so trustworthy.

† Nursery milk should not be kept in the nursery. The best place for it is on the sill of a window facing north. The jug should *never* be a narrow-necked one; such cannot be kept properly clean. Milk, both fresh and condensed milk in tins, should *always* be kept well covered.

seeds. But this is not all. There is still another danger from milk, and that a serious one; it is from the animal that gives the milk, if it be unhealthy. Cows are as liable to tuberculosis (consumption) as human beings. If kept in ill-ventilated stables they are very likely to become consumptive (a consumptive cow possesses the good quality in the eyes of a dairyman, that it eats less and gives more milk than a healthy one),* and through the medium of its milk it may convey consumptive disease to the child, *if that milk is unprotected by cooking.*

Dr. Newsholme, the Medical Officer of Health for Brighton, when speaking some time ago of the possibility of tubercular disease being produced in young children by drinking milk from consumptive cows, says: "This is confirmed by the well-known fact that consumption in children under five years of age much more commonly affects the bowels than the lungs. Thus in Brighton, during 1888, of children under five years of age, only three died of phthisis (tubercular disease of the lungs), while fourteen died of *tabes mesenterica* (tubercular disease of the bowels). It is satisfactory," he continues, "to note that the boiling of infected milk effectually destroys its infective power. The drinking of 'raw' milk ought to be as much an anomaly as the eating of raw flesh, and will probably become so in a few years."

Since this was written the Report of the Royal Commission which was appointed in July 1890 to inquire into "The Effect of Food Derived from Tuberculous Animals on Human Health," has, as a result of this inquiry, been published. The Commissioners point out that the danger from such food is a very real one, that "the actual amount of tuberculous disease among certain classes of food animals is so large as to afford to man frequent occasions for contracting tuberculous disease through his food." And of milk they say, "In regard to milk, we are aware of the preference by English people for drinking cow's milk raw, a practice attended by danger, on account of possible contamination by pathogenic organisms. The boiling of milk even for a moment would probably be sufficient

* This is in the first stage of the disease.

to remove the very dangerous quality of tuberculous milk.”*

Every one knows that numbers of outbreaks of scarlet fever and typhoid fever have been caused by the milk supply from one infected centre carrying the seeds of the diseases far and wide, and “*it has been conclusively proved that in households where the milk was regularly boiled they escaped infection*” (Cheadle).

These *proved facts*, given to us on the most reliable authority, ought to be sufficient to overcome the ordinary objections against boiled milk, which are usually flimsy ones, such as that children don't like it, that it is constipating, etc. As a matter of fact it is only constipating in so far as, being by boiling rendered less liable to putrefactive change, it will not occasion diarrhœa.

There is, however, one disadvantage, and only one, in the use of boiled (or sterilised) milk, and that is that boiling injures the *antiscorbutic* properties of fresh uncooked milk. Scurvy is a blood disease caused by want of fresh food. Valuable antiscorbutic properties exist in milk, as well as in fruits, vegetables, and the juice of raw meat. Children fed on plenty of fresh milk will never suffer from scurvy, but the disease is occasionally met with in children fed entirely on condensed milk (which can only be “condensed” at a high degree of heat), or sterilised or boiled milk, or on artificial human milk, because in all these the antiscorbutic properties are more or less injured.

Nevertheless, while it is important to bear this fact in mind, we should not be deterred by it from boiling our milk. It is always wiser, when between two evils, to choose the least. An attack of scurvy, which is one of the easiest diseases in the world to cure, is a very small evil compared to the terrible dangers of tuberculosis, scarlatina, or typhoid fever, and even this need not be feared with a little care. There is hardly any fear of scurvy during the early months, and after about the eighth month the child can have some antiscorbutic, such as potato gruel, raw meat juice,

* The *sterilising* of milk, now often resorted to, is accomplished by subjecting it, in a special apparatus, for a certain time to the action of steam, which completely destroys any germs it may contain. The invention comes from Germany, and the apparatus can be had through any chemist for from 10s. to 30s.

sweetened orange or grape juice, added to its dietary, if there should seem to be need for such. Cases of seriously developed scurvy only occur in children who have been fed up to nearly a year entirely on preserved or artificial foods, and even these speedily get well when treated with raw meat juice, potatoes, lemon juice, or other antiscorbutics. Of course if people have cows of their own, fed on a good pasture, lodged in well-ventilated, clean stables, and of whose health and soundness they are thoroughly sure, and if the milk is kept in a pure dairy, then there may be no need for boiling or sterilising it; but what assurance have the generality of us who live in towns on any one of these important points?

In a little village in the South Downs, near Brighton, I lately visited a farm which sent milk into that town for sale. In that village it was almost impossible to get a drink of pure water; there was no drainage to speak of, and the farm-dairy was so ill-ventilated and unclean that it almost took away the breath to enter it. Yet in it the milk was kept until it was sent off in the afternoon, to be sold next morning as "morning milk" in the Queen of Watering-places!

When we call to mind Sir Joseph Lister's words, we can imagine what the quality of that milk must be when unprotected by boiling.*

In the preparation of the infant's bottle (whether it is to supplement the breast or to be the entire food) the next point to consider is the proportion of milk to barley water when cow's milk is used.

In the analysis it is shown that cow's milk contains considerably more casein, a little more fat and mineral matter, and less sugar than mother's milk. We must add a good proportion of barley water to reduce the casein and make the milk digestible to the child; in doing this we reduce

* It is well to remember that milk should never be boiled in a tin saucepan. In this the edge of the milk will boil and probably burn, while the milk in the centre has not reached boiling point. It should be well boiled in a thick iron saucepan, enamelled inside, or, better still, in one of the double saucepans specially made for boiling milk. *Note.*—When milk is boiled a skin will always form on the top. This should never be thrown away, it is part of the albumen (*i.e.*, the *nitrogenous* element) of the milk. It should be rubbed into the milk with the back of a spoon.

the other elements below the proper level, it is necessary therefore to add some sugar, a little lime water, and a small pinch of salt,* and if possible a little cream, so as to bring up the sugar, mineral matter, and fat to their right proportions. For a new-born child one part of cow's milk and two parts of barley water (a tablespoonful or two of the barley water should be taken out before the mixing and replaced by the same amount of lime water) is the proper proportion. There is no need to fear that this will be too weak. *Remember the indigestible nature of the casein of cow's milk*, and that if such milk is given too strong, instead of nourishing it will cause indigestion and be passed away either in vomited curds or in diarrhoea. The old adage says that "it is not what we read but what we remember that makes us wise," and in the same way it is not what we eat but what we digest that makes us strong. I have known a baby get convulsions (caused by indigestion) merely through having insufficiently diluted cow's milk. When the milk was given more diluted the child got quite well. Enough sugar (Sugar of milk, which is sugar condensed out of milk, and can be got at the chemist's, is generally considered the best, though some doctors think cane sugar does not so quickly cause acidity) should be added to make the food decidedly sweet, and if cream can be had, one or two teaspoonfuls to each bottle of food. This should be cream from freshly-skimmed milk and not the cream sold in jars, which is usually preserved with boracic acid, is often a month old, and is not fit for a baby.

The amounts given here are when pure unwatered milk is used. In many towns the animal "with the iron tail" is prized by the dairyman and assists in filling the milk-can; in that case the proportion of barley water would of course be too large. A *Lactometer* is a very useful little instrument to assist in the selection of a dairy to supply the nursery; by it the amount of cream in the milk can be quickly ascertained. A little implement for measuring the specific gravity (*i.e.*, the weight of a body compared with another of equal bulk, taken as a standard) of milk can be had of any instrument-makers, and with the aid of these two the quality of

* A little salt makes milk more digestible.

milk can be easily judged of. "Cow's milk has a specific gravity of 1,025, as compared with water, 1000. Cream should occupy 10 to 12 parts out of every 100 parts of milk. If the proportion of cream is lower than the above, then the milk has been skimmed.* If the specific gravity is below 1,028, the milk has almost certainly been watered. As cream is lighter than milk, its abstraction without watering would tend to increase the specific gravity.† A low specific gravity with a low percentage volume of cream, therefore, must certainly indicate that the milk has been both skimmed and watered."—NEWSHOLME.

The milk taken from the cow at the end of the milking, called "strippings," is richer in cream than the first milk. When possible, this should be given to children.

As the child thrives the quantity of barley water may, after the first six weeks, be *very gradually* diminished till equal parts can be taken, and at about six months probably the child will be able to take two parts milk to one of water. This will of course depend on how the child thrives. It must be clearly understood that no absolute rule can be given in this matter of infant feeding. Children's stomachs and digestions vary as much as their faces. One baby can digest more casein and cream than another; a strong, vigorous child will be injured by *over dilution* of the milk; a child with a feeble digestion may be killed by *under dilution*. Digestion depends on individual constitution. Every mother must study her child and its food, and judge from it as to the strength and richness of the food to be given.

Now, there are three absolutely certain signs by which the most inexperienced mother may tell if her child's food is agreeing with it.

First, *by the scales*.

There is nothing more important in rearing a baby than that it should be weighed every week.

* *Separated milk* is even worse than skimmed milk. In the separator the milk is *entirely deprived of its cream*. Such milk is, of course, utterly unfit for infants.

† For this reason the specific gravity of the milk should not be taken alone as a proof of its quality, as it is actually higher in *skimmed* than in whole milk, for the above reason. The quantity of cream must always be ascertained also.

An infant should increase from 4 to 8 or 10 ounces in weight *every* week during the first nine or ten months. If it does not increase, or if it goes back in weight, *there is surely something wrong*, and its food should be seen to without delay.

By means of the scales many a baby's life has been saved. For this reason: we can *by weighing regularly* at once detect if something is wrong, and put it right. Without the scales the child may be dwindling in weight for some time before it is appreciably lighter in the arms of those who hold it. When at last they wake up to the fact the mischief that led to the cessation of the increase may have gone too far to be remedied. The nonsensical superstition against weighing babies surely will have no consideration from sensible people. In some countries the weighing of infants is a part of religious observance !

The next sign is found in the child's *motions*. These in a healthy baby should be the colour and consistence of thick mustard, and should scarcely smell unpleasantly. If curd is passed, it shows the milk is not properly digested. If the motions are green and ill-smelling, the food is sure not to be quite right. If they are putty coloured and costive, the liver is not acting; a grey powder will put this right. If the chemist is told the age of the child he will supply one of the right quantity. If there is diarrhœa it is almost sure to be caused by wrong feeding, and in this case nothing is better than a dose of castor oil, which, by clearing away irritating matter, usually quickly cures the diarrhœa of babies; but whatever has caused it must be *at once* set right *

The third sign is found in the general health of the child. It should be firm fleshed, and not pale and puffy. An increase in weight from a superabundance of unhealthy flabby fat is not a sign that the feeding is good. A well-fed baby with ordinary care should not cry much. If it is peevish and whining, or gathers up its legs and screams, or if it throws up sour-smelling curds, there is sure to be something wrong in the feeding; the last is a certain sign that the milk does not agree. Sometimes babies after a full meal

* If not soon cured by the dose of castor oil a doctor should be consulted, as diarrhœa is very dangerous for a young baby.

vomit up some milk: this need cause no uneasiness if it is not sour smelling or in stiff curd, as it is merely an overplus which the small stomach of the infant cannot hold; but if it is sour, the food must be altered at once.

Asses' milk may be given pure. *Goat's milk* does not require as much dilution as cow's milk. Indeed, in some places infants are reared by sucking the goat. *Condensed milk* should be mixed at first in the proportion of 1 spoonful to 23 of boiling water. It can be gradually brought down, as it is found to agree, to 1 in 10, or 8 of water. Condensed milk is very valuable for use in towns during spells of hot weather; it agrees well for a time, particularly for the first six weeks, but it should *never* be used continually for more than two or three months at most. Children fed on it grow fat, but *fat is not a proof of strength*, and it is often found that such children have not the same stamina as differently fed children, and quickly succumb in illness.

The temperature of the child's food should be the same as nature gives. The mother's milk is always the same heat—viz., blood heat, 98.4 F. The bottle milk should be the same. It is very bad to give it too hot or too cold. Feeding bottles are made with a thermometer at the side so that the temperature can be seen at a glance. When these are not at hand, care must be taken always to give the bottle at the same heat.

The second point of the three mentioned as absolutely necessary to be observed is *cleanliness*.

Dirty bottles, teats, jugs, etc., may easily cause a baby's death.

This is what Dr. Lauder Brunton says about that abominable new-fashioned invention (so different from the apparatus provided by nature), the feeding bottle *with a long tube*:—

“One of the most fruitful sources of diarrhoea in children is certainly the use of feeding bottles with long tubes, which are generally imperfectly cleaned, so that even when the milk is put quite fresh into the bottle it becomes inoculated with bacteria before it reaches the child's stomach, where the temperature is just right for their rapid multiplication and the decomposition of the milk. The difference between the chances of a child fed at the breast and in this way is enormous, for in the former case the milk flows free from

germs directly into the child's mouth, and the risk of bacterial inoculation is greatly diminished.

"Indeed, Andeer finds that in cows there is an antiseptic substance, resorcin, present in the udder, as if for the purpose of rendering the milk not only aseptic* but antiseptic."†

There should be always two, if not three, feeding bottles in use. Directly the child's meal is finished, the remains, if any, should be thrown out (not kept for the next), the bottle held under the tap, and then washed out with very hot water with a pinch of borax or soda, and when quite clean should be laid into a deep pan or pie-dish of clean water with soda or borax in it.

The teats and corks should be washed and kept in the same way, and all must be thoroughly rinsed, under a running tap if possible, before the next meal. If kept in this way there will be no danger of sour bottles. They can be occasionally brightened with tea leaves. The old-fashioned boat-shaped bottle is the best. With this the child must be held in the same position as when taking the breast. This is more troublesome, no doubt, than sticking the teat at the end of the long tube into its mouth and letting it help itself, but it is much better for the child; the flow of milk can be regulated, and there is no fear of the milk being churned up, as it often is, in perambulators, when the bottle is jogged along pressed close against the child's warm body, and it is left to help itself when so disposed. The bottle at night should *never* be kept in the warm bed. It ought, previously boiled, to be in a covered jug outside the window in summer, and on the landing in winter.

The third point of importance is *Punctuality*. A baby should get its meals as regularly as, but of course more often than, a grown person. Some people look on milk as a liquid that does not require digestion; a large part of it, however, *becomes solid after it is swallowed*. This solid requires to be digested. A baby fed at all sorts of odd hours never has time to digest its meals, and in consequence is griped and flatulent, and frequently vomits.

* Incapable of putrefaction.

† Counteracting putrefaction. •

It is all a matter of habit. A regularly fed baby is not half the trouble of one who gets the breast or bottle every time it cries. It is simply astonishing how an infant who has *from the first day* been accustomed to get its bottle every two hours will go to sleep after each meal and wake up exactly at the end of the two hours and roar. It is as punctual as a clock, and often keeps better time.

One sometimes hears women say helplessly, "Oh, I could never get my children into those habits." You certainly never will unless you begin on the first day. If a baby gets into bad habits you can't break him of them; he has always "the pull of you" in being able to deafen you with his screams; but if from the first he is regularly fed every two hours in the day (two or three times is enough in the night), he will not want it oftener, and the peace of the house, if the bottle is ready when he wakes, will be seldom broken. At the end of a month or six weeks he will take more at a meal, and every three hours will be often enough to feed him. The *quantity* given at each meal in some degree depends upon the size, vigour, and appetite of the infant. A large sturdy baby will take more than a small one, but the usual quantity required is about two ounces (that is, four tablespoonfuls) every two hours, gradually increasing to three ounces (six tablespoonfuls) every three hours after the first month or so. If the child will take more, of course it should be allowed to do so. The appetite is the best guide. After feeding, a baby should never be danced about; it should be laid on its right side; if laid on the left, the pressure of the liver on the stomach may cause it to vomit.

FEEDING OF DELICATE INFANTS.

There are some babies with whom cow's milk does not agree; no matter how diluted, they constantly vomit it in curds. In those cases *peptonised milk* will often work wonders. Peptonisation may be explained thus.

Proteid matter is essential for the building up of the body, but it cannot build it up unless it enters the blood, and it cannot do this unless it is converted into what are known as *peptones*—*i.e.*, substances which are diffusible through animal membrane. The casein of milk is proteid

matter ; it cannot pass through the lining membrane of the alimentary canal till it has been converted into peptone. During digestion this change takes place through the action of a special ferment in the gastric juice. In infants of weak digestion (also in chronic dyspeptics and invalids) this ferment is not active enough to perform its task, and in such cases the proteid matter cannot be converted into the substance diffusible through animal membrane, and consequently it cannot pass from the interior of the stomach into the blood and lymph spaces, and indigestion and malnutrition follow. By the process of *peptonisation*, milk and other things containing proteids can be converted into peptones (*i.e.*, *digested*) *before* they are swallowed. This is done by the addition of an extract from the *pancreatic gland* (*i.e.*, the sweetbread) and carbonate of soda. Either liquor pancreations can be used or peptonising powders. The latter are the most convenient. Both can be had from any chemist.

It has been found in many cases that children who could not digest milk, no matter how much diluted, have been able to assimilate and have thriven upon cow's milk when it has been peptonised. It has worked wonders in bringing back infants (unable to digest milk, and in consequence almost famished) from the verge of starvation to plumpness and rosy health.

Method.—For a young infant's bottle take a quarter of a pint of fresh cow's milk and a quarter of a pint of cold water,* and put them with one quarter of a peptonising powder into a small clean jug. Place the jug up to the neck in a vessel of water as hot as the hand can bear, and let it stand, shaking it occasionally. In exactly twenty minutes take it out of the water, sweeten, and, if possible, add a teaspoonful of cream ; it must then at once be given to the child.

If the infant should be asleep, or not ready at once for the milk, one of two things must be done ; either it must be boiled for three minutes, or the jug placed in a basin of ice, because the action of peptonising goes on while the milk is *warm*, but boiling stops it, and cold suspends it.

* Water used in feeding infants had always better be boiled first. It is always a protection against possible "germs."

If the peptonising goes on for more than twenty minutes the milk becomes bitter. It is this bitterness (which only arises from over-peptonising) that makes some people object to the process. No baby can be expected to appreciate bitter milk, no matter how digestible it may be, therefore care must be taken not to prolong the process. It must be remembered that peptonising milk for only twenty minutes does not digest it so entirely as to leave the digestive organs no work at all. If it were completely digested before taken it would, if constantly used, weaken the natural functions of digestion, but by being only partly digested the curd of the milk is rendered easy of assimilation, and the obstacle to a cow's milk diet is removed. It is not well, however, to continue feeding a baby on peptonised milk for too long a time on account of the carbonate of soda that has to be used in the process. This is likely to have a depressing effect if used constantly, therefore trials of other forms of diet should be made from time to time.*

ARTIFICIAL HUMAN MILK.

By kind permission of Dr. Playfair, I give this recipe from the last edition of his work on the *Science and Practice of Midwifery* (vol. ii. p. 316).

“Heat half a pint of skimmed milk to about 96°, that is just warm, and well stir into the warmed milk a measure full of Walden's Extract of Rennet (to be obtained of R. W. Walden, Chemist, 65 Elizabeth Street, Eaton Square).† When it is set, break up the curd quite small, and let it stand for ten or fifteen minutes, when the curd will sink; then place the whey in a saucepan and boil quickly. In a third of a pint of this whey dissolve a heaped-up teaspoonful of sugar of milk. When quite cold add two-thirds of a pint of new milk and two teaspoonfuls of cream, well stirring the whole together. If during the first month the milk is too rich, use rather more than a third of a pint of whey.” This should be made fresh twice a day.

* Further hints on the feeding of delicate infants will be found in the section on “Invalid Feeding.”

† If this cannot be had, reliable rennet can be got from any chemist. The measure is about a teaspoonful.

It will be seen from this recipe that "Artificial Human Milk," which many people think must be some mysterious compound difficult of preparation, is absolutely simple and easy to make.

It is important to remember what Dr. Cheadle says of it : "Artificial Human Milk will not keep long ; after a time the cream separates with some curd in great clots. If the dairy where it is manufactured is not within reasonable distance, have it made freshly at home. I have twice seen children dangerously ill from taking Artificial Human Milk which had been sent a long distance and had changed in this way."

WHEY FOOD.

When milk cannot be digested, *whey*, made as above and mixed with a little cream, or with the raw yolk of an egg, well whisked, will often prove very successful as food for a delicate infant.

FOR FLATULENCE.

Dr. Eustace Smith recommends "An aromatic, such as a couple of teaspoonfuls of cinnamon water, added to the milk seems often to supply a stimulus to the digestion, and I have known infants who were invariably troubled with flatulence after a meal of plain cow's milk and barley water, digest perfectly the same mixture when thus aromatised."

CONSTIPATION.

Dr. Playfair recommends, "In the first few weeks of bottle feeding, constipation is very common, and may be effectually remedied by placing as much phosphate of soda as will lie on a threepenny piece in the bottle, two or three times in the twenty-four hours."

RECIPE FOR MAKING LIME WATER.

Put a lump of freshly burnt lime* as big as an egg into a basin, sprinkle cold water over it to slake it, then put it into a clean wine bottle, fill with water, cork, shake well, let it stand for 24 hours. It will then be clear, and what is

* Can be got at a builder's yard.

required can be poured off from time to time, taking care not to shake the bottle. Some undissolved lime will remain at the bottom, and while any of this is left the bottle can be filled up with water again as it is drawn off. Keep well corked.*

* Sugared lime water is a stronger solution, and can be obtained at a chemist's.

CHAPTER VI.

WET-NURSING AND WEANING.

WET-NURSING.

A WET-NURSE should never be chosen without the approval of a doctor, *most especially* when a single woman is selected for the post. Only a doctor can tell whether she is free from disease which may seriously injure the child.

The wet-nurse's baby should be about the same age as the child she is to nurse, because the milk changes naturally almost from month to month, and a woman with a baby of six months does not make so good a nurse for a new-born infant as if her own were only a few weeks old.

A wet-nurse should be between twenty and thirty years of age; a young girl under nineteen should not be employed, nor one over two or three-and-thirty. A country woman should *always* be chosen, if possible; women reared in towns never make such good nurses.

The appearance of the wet-nurse's own child is a good guarantee of her suitability. If it is plump, with strong limbs, a clear skin, and is not peevish, it is surely receiving good nourishment. A very fat, white, puffy baby is not healthy; nor is a thin, puny one a recommendation of its mother's powers. If it has snuffling at the nose, any kind of skin eruption, or redness and cracking of the bowel passage, the mother should not be engaged.

The wet-nurse should, of course, have all the appearance of good health—clear eyes, *sound teeth*, a healthy skin with no marks of scars or eruptions, and a good muscular development; but a very *fat* woman, it should be remembered, generally has not a good supply of milk. The colour of her hair and eyes, on which some people lay stress, is of no moment at all if she is healthy and strong.

When a suitable woman has been found, it is very important not to make her unsuitable by bad management. The popular idea is that she should be continually eating, and have an unlimited supply of porter. This is a very great mistake, particularly with a woman who has been brought from a poor home, in which she has been accustomed to hard work and hard fare. When taken from this life, on which she has thriven, and plunged into a life of luxury, with nothing to do but carry about a small baby, and eat and drink quantities of rich food, with no opportunity of taking the exercise to which she has been used, can we wonder that she gets out of sorts? The woman, who perhaps has only had meat three times a week, now gets it three times a day, with ale and stout and other things on the same scale. Could any woman's digestion stand the change? In a short time it probably becomes disordered, the milk disagrees with the child, or perhaps ceases altogether, and eventually a new nurse has to be found. The whole trouble might have been avoided if the woman had been fed rationally. There is distinct harm in over-feeding a wet-nurse with rich food. Let her have plenty of good plain roast or boiled meat once a day, bacon and eggs, milk, oatmeal porridge, bread and butter, suet pudding, and such things. Vegetables and fruit in moderation, and stout or porter once a day. Constant porter drinking is disastrous for the digestion, and *very bad* for the child. Any woman who can't nurse unless she has a glass of stout before each nursing, *should not nurse at all*. The milk that is made by constant stout drinking is very bad for the child, and frequently brings on it diarrhoea and indigestion. Plenty of milk and barley water is the best drink a nursing woman can take. A good bowl of oatmeal gruel made with milk, or, better still, with milk and cream, will supply her with better nourishment for the child than any amount of stimulants; and this is an excellent thing to take just before going to bed. The more the wet-nurse is in the open air, the better. In summer, she and the baby should live out of doors for a great part of the day. The purification of the blood depends greatly upon a proper supply of oxygen; this can only be found in the open air. The milk is secreted from the blood, therefore an open-air life will supply good

milk. Exercise is very important for a nursing woman, also early hours. The wet-nurse should not be a lie-a-bed, and it is always well to let her take her share in the house-work, which will help to keep her muscles and nerves strong, circulate her blood, and improve her digestion. In house-work, however, the wash-tub, unless the nurse is a careful woman, should be interdicted, on account of the danger to the child of the nurse's wet lap and sleeves. *I have known this to cause a baby's death.* But sweeping and bed-making are capital exercises. Suddenly entering upon a life of sloth after one of activity destroys the nervous and digestive system, the liver becomes deranged, and the temper sour and irritable. A country woman may suffer severely if shut up in a London nursery, and the confinement will prey on her spirits, so also will home-sickness and the separation from her own child. There should be particular care taken that her mind is at rest on this matter, or the anxiety may deprive her of her milk. A fretting woman *cannot* make a good nurse.

Last, but not least, the temper and disposition of the nursing woman is important. An excitable, nervous woman makes a wretchedly bad wet-nurse. Trifles upset her and injure her supply of nourishment, and the infant nursed by such a person is always subject to the risk of sudden weaning. The more placid the temper and the less "nerves" the nurse has the better.

WEANING.

No child should be wet-nursed longer than twelve months *at the outside*, for this reason, that the quality of the milk changes during the later months.

"In women the percentage of the casein and fat increases to the end of the second month, but the sugar diminishes even in the first month. During the fifth and seventh months the fat also diminishes, and the casein diminishes between the ninth and tenth months. The salts increase for the first five months, then they diminish" (McKendrick).

From this we can see that the milk becomes much less nutritious in the later months, just when the child wants more nourishment. It is therefore very injurious, and often

leads to mischief to prolong wet-nursing after ten or twelve months.

The principal thing to remember about weaning is that it should be gradual. All the processes of nature are gradual, never sudden. So in taking the child from the breast let it be done by degrees. The best way is to begin, as soon as a couple of teeth are cut, giving out of a bottle some thin, *well-boiled* oatmeal gruel made with milk once or twice a day. It can be gradually made thicker as it is seen to agree, and given from a spoon. The breast feeding can be gradually given less often till it ceases altogether and the child takes its milk from a spoon, and then from a cup. In this way the child will wean itself, as it were, without any trouble. No change from the breast should be made while there is any trouble with a tooth coming through. If there is much trouble with teething, wet-nursing must be a little prolonged.

CHAPTER VII.

TEETHING.

HUMAN beings normally cut two sets of teeth. The first set (the milk teeth) consists of twenty teeth, ten in the upper, ten in the lower jaw. They usually begin to appear about the middle of the sixth or seventh month, and are generally cut in pairs. The second set are nearly all cut from the sixth to the eighth year, and are thirty-two in number, sixteen in each jaw; some of these, the wisdom teeth, are not cut till after twenty years of age. Some children teethe very late. Cases have occurred of teething being delayed as late as the third year. This is nearly always on account of a *rickety* constitution—rickets and late teething usually go together.

The order in which the teeth usually come is, first the two lower central *incisors* (the teeth directly in front, so called because they are used for biting), then in four or six weeks come the two upper central incisors; then the two teeth next these (*lateral incisors*), upper and lower. All these eight teeth are generally cut, in a healthy child, by eight months old. After a few weeks come the four front *molars* (from the Latin *molar*, a mill—*i.e.*, the grinding or chewing teeth). After these come the four *canine* (from the Latin *canis*, a dog, as they resemble dog teeth; these are the *eye teeth*), situated next the lateral incisors. The cutting of the eye teeth generally gives more trouble than any of the others. Lastly appear the four back molars, the whole set of twenty in a healthy child being usually cut by the end of the second or beginning of the third year. But even in healthy children there may sometimes be a delay of a few months in the coming of these last four teeth. This need cause no uneasiness.

There is no certainty that a child, if healthy, will get its teeth easily or the reverse. Some very healthy children suffer much at the time of teething.

The first symptom that the teeth are coming is the greatly increased flow of saliva. There is often feverishness, and the baby is cross, restless, and the gums become swollen, hard, and red. This is not so general with the little incisor teeth, which come easily through; the eye and the back teeth give more trouble.

During teething children are specially susceptible. The whole nervous system and most of the organs and tissues of the body are going through a period of change and active growth. There is a great liability to diarrhœa, colds, feverish attacks, or convulsions, and of all things pure air, good ventilation, warm clothing, and quiet are necessary, with fresh, good milk and plenty of sleep. Three of these things can be had in the country as they never can be had in towns. It has been remarked in one of the Registrar General's Reports that many more children die from the effects of teething in cities than in the country. A few days' change of air to the country during teething is often of wonderful benefit. Constipation or diarrhœa during this time should never be neglected. For the first a little manna, or the phosphate of soda (see p. 271), or a dose of castor oil may be tried. For the last a dose of castor oil is also a good remedy, as it clears away irritating matters. It does *not* constipate afterwards, as it is popularly supposed to do. Castor oil is a safe and excellent baby medicine, and the best of all for use in teething. Of all things avoid the advertised and puffed *soothing medicines*. The advertisements never mention the deaths caused by them, *which are numerous*. For diarrhœa an aromatic chalk mixture can be supplied by any chemist who is told the age of the child. If these do not stop the diarrhœa the doctor should be called in, as it is a great delusion—and a popular one—that actual diarrhœa during teething is useful. Ordinary looseness of the bowels should not be checked, it helps to keep off feverishness and may ward off convulsions, but diarrhœa is very weakening, and may quickly sap an infant's strength, upon which there is a serious drain during teething.

Warm clothing and a flannel swathe on the abdomen are

very necessary, but the child should be out of doors as much as possible. A warm bath at night is very soothing; and of all things *cold water given in a spoon* from time to time is most grateful to the infant. People often forget that babies are *thirsty* as well as hungry, and that water relieves thirst better than milk. When the gum is swollen and inflamed the nurse should dip her finger in fresh lemon juice and rub it gently. This will cause a little smarting, and the child may cry for a minute, but the relief that soon follows is great. An india-rubber ring is the best thing for "teething on." *Never* give a child a crust or the drumstick of a fowl for this purpose; such things may easily cause choking. India-rubber is better than any hard substance, which often hurts the gums and does not help forward the teeth as the more yielding india-rubber does.

Care should be taken, when there is excessive dribbling, that the child's chest is protected by a waterproof bib or thick flannel, as the damp may give cold on the chest.

CHAPTER VIII.

THE FEEDING OF YOUNG CHILDREN.

THERE is a great deal of nonsense talked about over-feeding young children. *You cannot over-feed a child on plain food.* If mothers understand that great chemical changes are going on in the young, growing body, and how much quicker its development is in extreme youth than it is afterwards, they will understand why plenty of nourishment is an actual necessity for young children if they are to arrive at a healthy maturity. Children may over-eat themselves on plum-cake, jellies, and creams, no doubt, but they will not on bread and butter,* porridge and milk, suet pudding and gravy, rice pudding, eggs, potatoes, lentil porridge and macaroni, semolina, and such things, all of which are ideal foods for young children.

Arrowroot, corn flour, barley, and sago do not contain nearly as much nourishment as oatmeal, which contains much more albumen, fat, and mineral matters than they do. Lentils form a most excellent food for children, either stewed in gravy, in soup, or as lentil flour porridge. "Lentil flour," says Sir William Roberts, "contains twice as much proteid (flesh-forming) matter as wheat or oat flour, and almost twice as much lime."

Macaroni and semolina are also highly nutritious, as they are formed chiefly of the gluten of wheat, which is its most valuable part, and weight for weight, they are said to be as good for flesh-forming purposes as beef or mutton.

Suet pudding is another excellent nursery dish, *if* it is well boiled and made of half suet and half of equal parts of

* Do not give jam as a *substitute* for butter; give it with butter. Nothing can take the place of the latter, except it be dripping.

flour and bread crumbs mixed. This is bread and meat *in the most digestible form*.

The time when solid food should be given is pointed out by nature in the capacity for chewing which comes when twelve or more teeth are cut. Bread and butter, porridge, a soft-boiled egg, and farinaceous puddings can generally be given at eleven or twelve months, also potatoes and butter mashed with an egg or a little white fish, such as haddock or whiting, mixed through it. Meat should not be given until eighteen months old at the very earliest, and then only a spoonful of very finely *scraped* tender mutton, chicken, or rabbit. By scraping, the indigestible tendon of the meat can be removed; this is not done if the meat is only minced. Children *do not* require much meat; they can get all the nourishment they need from the things first mentioned. Well-cooked vegetables of all sorts and sweetened stewed fruit are most necessary for children. Children should never be given *fresh* bread, buns, or cakes. It is important to know that a *most dangerous obstruction of the bowels*, which may lead to *peritonitis* (inflammation of the intestines), may be caused by *fresh bread*; this is liable to form into a *solid mass* at one point in the coil of intestine, from which it may not be possible to dislodge it, and the result may easily be fatal.

Eating slowly, so that the food may be well chewed, should be one of the most stringent nursery rules. We often find the Autocrat of the Nursery, who, in general, is guileless of the most elementary knowledge of physiology, exhorting the children to "hurry up," so that the things may be cleared away, etc. Children (or any one else) should never hurry over meals; if they do they will surely lay the seeds of dyspepsia and all sorts of digestive troubles, which may last them all their lives. Many a sufferer from chronic indigestion owes it to the bad management of his mother or nurse, who gave him his breakfast and dinner so late that he had to run from the table off to school with no interval to allow digestion to proceed properly. During that process extra blood is required in the stomach to help on the work. If we exercise brain and muscle directly after a meal we draw away some of the blood from the stomach and retard the work of digestion.

Talking and laughing when food is in the mouth should be sternly repressed. Remember that it may easily lead to food being swallowed the "wrong way"; that is, it may go down the air-pipe, not the gullet, and may cause suffocation; or some hard substance, such as a fruit stone, may find its way *into the lung*, become impacted there, and set up an abscess which may cause death. Children should never be allowed to run about the house with food in their mouths.

Eating between meals is a habit disastrous to good health in children. The physiological "reason why" is this—When even a little scrap of food enters the stomach it excites the gastric juice to flow; *this is injurious to the coating of the stomach*, unless there is food there upon which it can act. Besides this it injures the appetite and prevents proper meals being taken.

Finally, I would seriously impress upon parents the absolute importance of not giving alcohol in any form whatever to children *except as a medicine when ordered by a doctor*; as such in medicinal doses it is sometimes valuable, but in health it does nothing but mischief. Children's beverage should be milk or cocoa. I would never give young children absolutely pure cow's milk; it should always be diluted with a little barley water; they will get much more nourishment out of it so than if given pure. Such drinks help to build up the body; all forms of beer and wine supply a false stimulation, entirely unneeded by a child, and may lay the foundation of a craving which will ruin the after-life.

For the same reason condiments of any kind, *except salt*, should never be given to children; they supply a pernicious stimulation that sometimes develops later into a craving for alcohol.

Salt with food is *most* important. *It helps to prevent worms*. It assists the digestive secretions, and helps to prevent constipation. The eating of salt with food is very much a matter of habit, and such a habit is most important to encourage at the nursery table.

CHAPTER IX.

PHYSICAL DEVELOPMENT.

IT is a curious fact that, though the care of children is everywhere looked upon as being the special province of *women*, yet it is by *men* that the first careful and exact records of the mental and bodily development of children have been made. In 1840 Darwin began to make observations on the mental development of his own children, and since then much valuable work in the same field has been done by scientific men, notably by Mr. Francis Galton in his studies on hereditary influences.

It is very important indeed that parents too should study these subjects. In the limited space of this little volume it is of course impossible to enter upon them. I can give but the following brief outline of the chief facts of the physical development of the young, which it is absolutely necessary that all parents should know. I would, however, commend a much further study of the subject to all parents who desire their children's welfare.

The average weight of a baby at birth is from six and a half to seven and a half pounds. Children have been born healthy and have grown up so who weighed at birth considerably under and over these average weights. A decrease in weight occurs during the first few days after birth; then the weight should *steadily* increase from four to ten or twelve ounces a week, so that the birth weight is doubled in the first six months, and trebled by the end of the first year. After the first year growth is slower. The weight at the end of the first year is not doubled till the end of the sixth year; this again should be doubled at the end of the fourteenth year.

The average length at birth is nineteen inches; this

should be doubled by the end of the fourth year. Weight and growth should progress together. Undergrowth in height and loss of weight in childhood (*particularly the latter*) is always a Danger Signal.

It is for this reason that children should be weighed weekly during the first year, and measured at least quarterly. Physicians tell us that their experience is "that stoppages in the growth and proper development of children are usually not observed till they have gone too far to be easily remedied and their causes removed." Again, if the growth in height is too rapid it will prove a great tax on the strength. This is a state of things we cannot alter by feeding, as we may do in loss of weight, but we can *counteract* it in some measure by shortening the school hours, by giving the child plenty of rest and sleep, and avoiding over-strain of any kind. Nourishing food, an open-air life, and cod-liver oil are of course very valuable when growth is rapid.

The brain of a new-born baby is about 14 per cent. of its entire body weight, while a grown person's is but 2.37 per cent. of it. The brain doubles its weight in the first year of life.

As the brain growth is so rapid, quiet is essential for infants. Excitement is *highly* dangerous to young children. Sleep, "chief nourisher at life's feast," as Shakespeare, with more force than any physiologist, has put it, is most important for the young. Infants should sleep the *greater part of the twenty-four hours*. All young children should have at the very least twelve hours sleep out of the twenty-four. This fact of the rapid brain growth of the young is far too much overlooked nowadays. Children are sent to school *much too young; the consequence is a great increase of* IDIOCY. I think a law is very much needed to make school *illegal* before six years of age. Cultivate the body and *good habits* up to six, then begin upon the brain.

The bones of the top of the skull are not closed together at birth. The space between is called the "Fontanelle" (from the French, "little fountain"), because a rising and falling of this part occurs as the child breathes. This part forms a means of judging of the child's state in illness; it is a serious sign if the fontanelle becomes depressed. These bones should not be completely closed till the end of

the second year. If they remain open longer than this it is usually a sign of a rickety constitution.

The child's frame consists of from 700 to 800 parts of bones. In adults these parts have ossified, and when growth is completed the frame contains about 200 bones. The child's body therefore requires care. Carrying heavy weights, sitting doubled over books, etc., easily cause injury in this undeveloped state. The *spine* of the infant is very weak, and it is very injurious for a young baby to be put sitting up straight. Its brain is, as we have seen, out of proportion heavier than its body. It is a painful sight to see a poor little infant held sitting up in the arms of a careless mother; its back is bent and its head nods forward on its chest. Think of the injury to its weak frame. Babies should be kept in the horizontal position (being raised for meals with the back carefully supported) *until* they want to sit up of their own accord. This they will do when the spine has acquired proper strength. Nature dictates the proper time, and when it arrives the child *won't* be kept lying down. It is the same with walking. Some walk earlier than others. It depends upon the constitution. Leave them to nature, and they will walk when the leg bones are strong enough. Never try and make a child learn to walk until it wants to do so. Rickety children are late in walking. Do not let heavy children be on their feet too much, it injures the shape of their legs. When grown people walk with children they should remember the difference in the length of their legs, and they should walk slowly, so that the short legs may keep pace with theirs.

Mail-carts are very good for children over three; they are very bad indeed for babies, who cannot sit in them unless doubled nearly in two. A bassinette perambulator is better than a nurse's arms for babies, if there is a hot water bottle in it in cold weather, and the child is well covered.

CHAPTER X.

POINTS TO REMEMBER IN THE CARE OF CHILDREN.

1. THE nursery should be sunny, cheerful, and well ventilated. Children, like plants, suffer seriously from want of sunlight. They are more seriously affected by impure air than grown people. They are depressed by gloomy surroundings.

2. The nursery should not be used as a kitchen, a larder, a laundry, nor as a menagerie for keeping pet animals.

3. If the nursery is on the top floor, it can be kept much cooler in summer by having the slates white-washed with lime mixed with plenty of size; the rain will not wash this off.

4. Baby soothers (*i.e.*, the india-rubber closed teats, with an ivory ring attached) do infants no kind of harm to suck, *provided they are kept clean*. It is a ridiculous mistake to suppose a child *can suck in wind* while sucking them. "Wind" in the intestines is caused by gases given off by fermentation of indigestible food. If it were caused by imbibing air, every one would suffer from perpetual stomach ache. These "soothers" have a great advantage in keeping babies from getting the habit, often so hard to break, of sucking their thumbs.

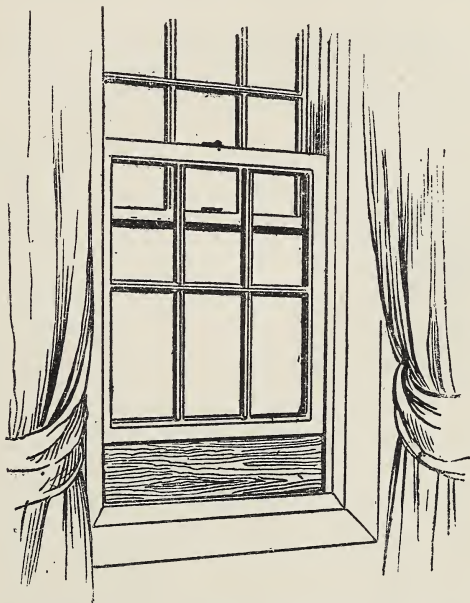
5. Accustom babies from the first *not* to require to be "hushed" to sleep. This is merely a habit, and gives needless trouble.

6. Sun on the head is extremely dangerous for children.

7. Every mother should see her children undressed once a day, so that she may see if there are any bruises, eruptions, etc.

8. Constipation often comes from neglect of *regular* habits. Children should be *obliged* to make regular visits

at the same fixed hour every day. *Sudden death has taken place from neglected constipation in children.* It leads to all sorts of bad health. There is no more important matter for a mother *to see to herself* than that her children's bowels act *every day*. This matter should never be entirely left to



This is a sketch of the "costless ventilator." It ought to be in every nursery. The object is to allow air to enter *between* the sashes, without letting a draught in. The lower sash is raised when the wood is put in, and the sash shut down upon it. It can be taken out merely by lifting the sash above. Any handy man can make it for a few pence.

servants. Do not get into the habit of drugging. Give ripe or stewed fruit, brown bread, butter, and treacle, with plenty of water drinking. Rubbing the abdomen night and morning is very useful in constipation. Use the palm and ball of thumb. Press gently down on right side of belly,

and move hand round towards left, go round and round like this for five minutes, making gentle pressure. A piece of soap, size of little finger, oiled, may quite safely be passed gently about an inch into the bowel, and withdrawn in half a minute, when the bowels will act. The best medicines, when necessary, are castor oil, fluid magnesia, or liquorice powder.

9. The nurse should be the most carefully selected of all the domestics, particularly with reference to her moral character. *An immoral nurse may do an infinity of lasting harm to children.*

10. In conclusion, the greatest safeguard for children is their love and *respect* for their parents. They will rarely follow the precept of parents in whose life they do not see the practice of it carried out. The example of an upright life lived before them is the best legacy parents can leave their children.



Every-Day Ailments.

Abscess.—An abscess is caused by purulent matter (pus) gathering in some part of the body, and giving rise to swelling and pain as the matter works its way to the surface. Poulticing and fomenting with flannels wrung out of boiling water* helps the matter forward, hastens the coming of the abscess “to a head,” and relieves the pain and inflammation. Great relief is given by having the abscess opened by a doctor, instead of waiting for it to burst. Hours of suffering may be saved by this slight operation. A good application, *before poulticing*, is *glycerine and belladonna*. Procure from a chemist two drachms of extract of belladonna, and mix with it the same quantity of glycerine,† smear this well over the abscess, and ten minutes later apply a hot linseed poultice. This helps the pus forward, will ease the pain and lessen inflammation. *It must not be used after an abscess has burst.*

If the matter from an abscess has an offensive smell apply a linseed poultice covered with a muslin bag containing wood charcoal, which will destroy the effluvium, or mix a dessert-spoonful of the charcoal with a bread and water poultice, and sprinkle the same quantity over the surface of the poultice, and apply it.

Abscess in the Ear should always be treated by a doctor, as if neglected or improperly treated permanent

* Directions for preparing fomentations will be found on p. 371.

† As the extract of belladonna is a poison, the chemist may refuse to supply it, but he will make up the mixture as a liniment if asked to do so.

deafness may result. In cases where it is impossible to get medical attendance, or until the doctor comes, treat the abscess by laying over the ear a very hot linseed or bread and water poultice, with a spoonful of laudanum or extract of belladonna spread over it; this will help to bring the abscess to a head and relieve pain; or wring flannels out of boiling water, or water in which poppy heads (one to a pint) have been boiled, and apply, changing them frequently, before they have time to cool. If the abscess bursts, the matter should be gently washed away with bits of cotton wool dipped in a solution made of a pinch of *permanganate of potash* dissolved in a pint of warm water till it is rose-coloured. After removing poultice or fomentation keep the ear very warmly covered with hot wool and flannel. This is all that can be done without a doctor's advice. *Note.*—The ear is very near the brain; for this reason ailments of the ear require careful and skilled treatment. Neglected abscess of the ear may lead to inflammation of the brain.

Abscess in the Breast sometimes follows on catching cold after a confinement, especially if the patient's health is in a low state. On the first symptoms of pain and swelling in the affected breast poultice with bread and milk or hot linseed poultices, and rub *frequently* and *gently* with a liniment of extract of belladonna and glycerine, equal parts, well mixed; this gives great relief. An infant must not be put to the breast while this is being used, as belladonna is poisonous. Fomenting the breast with flannels wrung out of boiling water, to each pint of which 20 grains of carbonate of ammonium has been added, is also an excellent application in abscess of the breast.

All abscesses are very weakening. The patient requires tonics—prescriptions for several excellent tonics will be found under head of Influenza, etc.—and plenty of nourishing food. The bowels must be kept open; this is an important point.

Acidity.—This symptom is an evidence of imperfect digestion; it can be easily relieved by taking a small teaspoonful of *bicarbonate of soda* dissolved in a wine-glassful of water. This is a rather unpleasant dose, but is very cheap and effective. Effervescent lozenges of bismuth and

soda, which can be had at any chemist's, are a more agreeable form of ant-acid, and are very convenient for carrying in the pocket for occasional use.

Sufferers from acidity should especially avoid *sweets, beer, pastry, and rich dishes*. (See Indigestion, p. 334.)

Acne.—This is a very common skin affection. It is an inflammatory condition of the sebaceous (oil) glands, hair follicles (from the Latin *follicis*, a bag—*i.e.*, the little bag-like glands in which the hair is imbedded in the skin), and the skin surrounding them. There are several varieties of Acne; the most general is that in which the patient is troubled with constantly recurring crops of little hard red pimples, and “black heads” (comedones), which are tiny pimples with a black spot at the tip. These appear chiefly on the face, neck, shoulders, and back, and are most common in young people. Another variety, *Acne rosacea*, which is nearly always associated with dyspepsia, is accompanied with bright red patches, or blotches, which spread across the nose and cheeks (in the form of a butterfly flying). This is very disfiguring, of course, and often causes much annoyance to the patient from being supposed to proceed from over-indulgence in alcohol. There is no doubt that such indulgence does produce this kind of redness in the face, and an eruption of boils, on the nose especially; but nevertheless the condition may exist in people of perfectly temperate habits, as a result of this form of skin ailment.

Causes.—Acne is produced by a variety of causes. Flatulent dyspepsia is a great factor in its production, also constipation and any disturbance in the natural periodic functions of the body. Exposure to extremes of heat and cold, dissipated living, intemperance in eating or drinking, such as over-indulgence in beer and rich, highly-seasoned and over-stimulating dishes, and the opposite extreme, poor feeding, are all predisposing causes to different forms of Acne. *It is also frequently caused by tight-lacing, and by the use of cosmetics and face or “complexion” powders containing injurious ingredients.*

Treatment.—The first thing, of course, is to remove the cause of the ailment, if it can be traced to any of the above sources. Then the *diet* must be carefully regulated. Strong

tea and coffee must be particularly eschewed, also beer, alcohol, strong soups, spices, and rich food of all kinds. The diet should be as digestible as possible, light and nourishing, with plenty of green vegetables and fruit. Cod-liver oil, for those who can take and digest it, will be found most beneficial. The bowels *must* be kept open. The artificial Carlsbad salts, or the Household Saline draught, prescriptions for which will be found at pp. 300 and 302, should be taken once or twice a week, as circumstances require. Exercise in the open air is especially necessary. Woollen underclothing and warm stockings should be worn; chills are injurious. The best beverage is milk with barley water or soda water. Local applications are useful if they are of the right kind. Avoid quack lotions and nostrums, they are often very mischievous. Fomentations of hot water to the hard, inflamed pimples are very useful, and help to bring them to a head and to disperse them. The water should be *as hot as can possibly be borne*. The best way to apply it is either by sponging, or by laying a thick folded flannel in a towel, pouring on boiling water, and then twisting the towel in opposite directions with each hand, so that it is wrung nearly dry, the steaming flannel is then applied to the eruption. Holding the face closely over the steam of a basin of boiling water may also be tried. In severe cases a poultice of crushed linseed meal will be found soothing. Powdering the skin will only increase the trouble, as it still further fills up the already clogged pores. When "blackheads" are visible they should be removed—after the fomenting or steaming—by pressing a finger nail to each side and forcing them out. These are *not*, as some people suppose, living grubs imbedded in the skin, they are merely little plugs of fatty matter which fill up the glands or enlarged pores; the black spot is an accumulation of dust or dirt on the outer tip of the plug. Frequent smart rubbing with flannel wrung out of hot water should keep the skin free from them. The occasional use of a mild sulphur lotion is also very useful in removing blackheads.

In every variety of acne this lotion will be found very serviceable:—"One drachm liq. plumbi subacetatis* with

* This can be had for a few pence from any chemist. A drachm is equal to a teaspoonful. Do not let it get into the eyes.

an ounce of new milk. Dab on night and morning.”
(Dr. F. F. Pringle.)

For Acne Rosacea, if the eruption is of an angry character, this lotion will be found excellent:—

Levigated calamine.....	40 grains.
Oxide of zinc	20 ”
Glycerine.....	$\frac{1}{2}$ drachm.
Lime water	$\frac{1}{2}$ ounce.
Rose water	$\frac{1}{2}$ ”

Shake the bottle and dab on two or three times a day.

A mild sulphur ointment is also very serviceable in this affection when the eruption is not of an angry character. It should be rubbed in at night, taking care it does not get into the eyes, and washed off with hot water in the morning. Sponging with water as hot as can be borne has the effect of reducing for a considerable time afterwards the redness of these eruptions.

Anæmia—*i.e.*, poverty of blood.—This is a disease that principally affects young women, though of course any one may suffer from it. It occasionally occurs in the course of other diseases, as a result of the waste of albuminous matter from the blood, as, for instance, in Bright’s disease.

Symptoms.—Extreme paleness of the face and lining membrane of the lips, eyelids, gums, etc., which in health are of a rosy colour. Lassitude and depression, indigestion, constipation, palpitation, headache, neuralgia, slow circulation—which causes the hands and feet to be always cold, and puffiness of the feet and legs to occur in some cases—and there is often hysteria and loss of appetite. These symptoms vary in different cases. The paleness of the face is sometimes of a greenish tint, giving rise to the popular name “green sickness,” and the complaint may be slight or very serious, and so require good medical skill and nursing to cure it.

Causes.—Anæmia may follow from a great variety of causes:—1. Serious loss of blood. 2. Prolonged dyspepsia. 3. Intemperance, which impoverishes the blood. 4. Metallic poisoning. 5. Excessive smoking. 6. Prolonged suckling. 7. Want of sunlight—*i.e.*, living in

dark rooms. 8. Want of fresh air and healthy exercise. 9. Want of fat. 10. Debilitating diseases, such as Bright's disease, Diabetes, Chronic Diarrhœa. 11. Poor feeding, and want of sufficient fatty food. 12. Constipation, long neglected. This last is a frequent cause and accompaniment of anæmia, so much so that the late Sir Andrew Clark said that if he could have but *one* drug with which to treat anæmia he would choose a *purgative*. It must never be forgotten by those who wish to enjoy good health that prolonged constipation tends to pollute the blood, and set up a certain degree of blood-poisoning.

Treatment.—As with every other disease which can be traced to a cause, that *cause* must be removed before a cure can be hoped for. Constipation must be overcome. The artificial Carlsbad salts, for which Dr. Lionel Beale's prescription is given at p. 300, may safely be used for this purpose. (See also Constipation, p. 315.) The patient should if possible live in sunny rooms; change of air to seaside or some bracing place is invaluable, as are also early hours, plenty of sleep and rest, but a sufficiency of outdoor exercise should be taken; over-fatigue is very injurious. Plenty of nourishing food is absolutely essential, and it must be food containing *fat*. This does not mean that *fat meat* should be eaten, if, as is often the case, it cannot be digested. Eggs, milk, cream, butter, *all contain fat in a most digestible form*. Broiled bacon is very nourishing. Milk puddings, fish, and all such light kinds of food are very suitable for anæmic people.

Of all drugs *iron and cod-liver oil* are the best for anæmia. The cheapest way to buy this (and it is as good as any expensive preparation) is to procure the oil from the fish-monger (at most large fish-shops good cod-liver oil can be had for about 1/- per pint), and procure a few pennyworth of tincture of perchloride of iron from the chemist. The dose is one teaspoonful of oil and eight or ten drops of the iron, in half a wineglass of water. This should be taken regularly three times a day, about a quarter of an hour after meals. It is important to remember that small doses of iron and cod-liver oil regularly taken do more good than large ones. Oil is not easy of digestion, and many people do themselves harm by taking *large* doses, whereas

they would do good if they took small ones. Large doses of iron are likewise apt to be injurious.

For those who cannot, or will not, take cod-liver oil, the following mixture will be found excellent:—

Citrate of iron and ammonia, 2 drachms; water, 8 ounces (16 tablespoonfuls). Shake up in a bottle until dissolved, and keep well corked. Dose—1 tablespoonful three times a day after meals. This will cost only three or four pence.

Note.—Sometimes people object to take iron because of its tendency to blacken the teeth. Any discoloration so caused may be removed by cleaning the teeth with a mixture of equal parts of tannin and charcoal, finely sifted and free from grit. Any chemist will prepare it properly for a few pence.

In taking iron the spoon should be put as far past the lips as possible; if taken without oil it may be sucked through a straw or quill or tube to avoid contact with teeth.

Appetite, Loss of.—This generally comes from debility or derangement of the liver or digestive organs. Anything that lowers the general health, such as living in ill-ventilated rooms, taking no exercise in the open air, smoking too much, taking “nips” between meals, neglected constipation, and setting the laws of health generally at defiance, injures the appetite. There is no use in taking tonics to restore the appetite unless controllable errors of these kinds are corrected, but if they are, a tonic will prove valuable, and a most excellent and cheap one is *Tincture of Red Cinchona Bark*. Procure sixpennyworth from a chemist, and take about 30 drops (half a teaspoonful) three times a day in a little water or sugar and water syrup shortly after meals. Change of air and food are also sovereign remedies in cases of loss of appetite from debility.

Asthma.—This is a paroxysmal disorder of the respiratory organs, attended with more or less wheezing and sense of suffocation, and causes more distress and suffering than actual danger to life.

Symptoms.—Wheezing, accompanied by some cough and sense of constriction of the chest, and the patient feels as if

being smothered. The attacks sometimes come on suddenly, and last from a few minutes to several hours.

Cause.—Asthma is a complaint very much connected with the nervous system. It is induced in some people by special articles of diet, and in others by some special odour, or even in some cases merely by the proximity of some particular animal. A story is mentioned by a well-known medical authority of a man who suffered from asthma for years. He was a livery-stable keeper. At length he retired from business, and to his surprise soon found that he was quite delivered from his asthmatic attacks. They had been caused solely by the proximity of horses.

Hay fever is often accompanied by asthma, the patient suffering from it during the hay flowering season, but at no other time. Asthma is more prevalent in damp, low-lying, marshy places than in dry, well-drained towns.

Treatment.—During attacks diet is highly important. All rich, indigestible, and stodgy food must be strictly avoided. Potatoes, pastry, cheese, nuts, sweets, and spiced or preserved foods should not be eaten at all. The last meal should be taken three or four hours before going to bed, so as to be digested before sleep. In bad attacks the application to the chest of a flannel wrung out of boiling water, and sprinkled with a teaspoonful or two of turpentine, will be found useful; also a foot-bath of hot water with some mustard in it. In many cases, however, the most efficacious means for obtaining relief is by inhaling the fumes of burning *Nitre Paper*.

This is very simply made in either of the following ways. The latter is, for most cases, the best.

1. Dissolve 4 ounces of saltpetre in half a pint of boiling water (this makes a *saturated solution*—*i.e.*, a solution containing as much as it is possible for the water to hold in a liquid state), soak some sheets of blotting-paper* in this and dry by the fire or in the sun, cut into strips, and keep dry in a glass bottle; if the papers become limp, re-dry them.

2. Dissolve 2 ounces of saltpetre and 2 ounces of chlorate

* "Red blotting-paper of moderate thickness and loose texture. If the paper is too thin it absorbs insufficient nitre; if too thick, it takes up excess of nitre, the paper burning too fast with a sudden explosive flame."

—S. RINGER, M.D.

of potash in half a pint of boiling water; dip several sheets of paper into it while boiling hot—they should be soaked together, and dried while stuck together, and will then be quite stiff, and may be cut into strips or squares.

The following quotation from Dr. Sydney Ringer (*Ringer's Therapeutics*, p. 202) gives such valuable and plain practical information on this matter that I give it at length:—"In the Pharmacopœia of the Throat Hospital Sir Morell Mackenzie gives the preparation of three papers of different strength, one made from a solution containing 60 grains, another 40 grains, and the third 30 grains of nitre* to an ounce of water. He directs the paper to be cut into pieces 3 inches long and half an inch broad, and one to six of these pieces to be used successively at each inhalation. The paper is burned in a jar,† and the fumes inhaled by taking deep inspirations from the fuming vessel. Various substances may be added to the solution which appear in some instances to heighten the effect of the nitre, such as compound tincture of benzoin, spirits of camphor, oil of cassia, and tincture of sumbul. It is a singular circumstance, affording a marked example of the 'caprice' of asthma, that a paper prepared with nitre only will relieve one patient, yet will utterly fail to relieve another, although a nitre paper prepared in a different manner may be quite successful. It must be borne in mind, therefore, that although one kind of nitre paper has failed, it does not necessarily follow that another sort of nitre paper will also fail. Sometimes a thin paper fails where a thick one succeeds, or *vice versa*. It appears, indeed, that very slight differences in the mode of manufacture influence the therapeutic effects. Many quack papers, said to contain other substances besides nitre and chlorate of potash, often succeed admirably. A considerable recent experience leads me to conclude that these papers would prove much more relieving if somewhat differently prepared, and if pieces were burned sufficiently large to fill the room with fumes. The most efficacious paper is made by dipping ordinary white blotting-paper in a boiling saturated solution of nitrate of potash and chlorate of potash. Paper thus prepared burns with a flame.

* *I.e.*, saltpetre, or nitrate of potash; they are the same.

† An ordinary 3 lb. jam jar will answer well.

A large piece, the size, of course, depending upon the dimensions of the room, often succeeds when other prepared papers fail—a piece ten inches square, and sometimes two or three pieces are required. When ordinary papers have failed, I have recently used, in some cases with advantage, a pastille compounded of two parts of nitre, one part of chlorate of potash, with two parts of lycopodium powder. Dr. Murrell uses with much success a thick paper soaked in a boiling saturated solution of nitre and chlorate of potash.* This thick paper, made by the adhesion of six sheets during crystallisation, contains, when dry, twice its own weight of salt, and a piece of paper six inches square takes up nearly half an ounce of the mixed salt. Certain cases require a greater quantity of nitre smoke than others. I am convinced that the reason why papers appear in so many cases to fail is that they are not adequately impregnated with nitre, and are consumed too sparingly."

If an attack should come on soon after a full meal has been eaten, it is much better to clear the stomach out by an emetic of a dessert-spoonful of ipecacuanha wine. If there is constipation, an enema should be given, or a seidlitz powder, or the artificial Carlsbad salts, or a dose of castor oil. For nocturnal asthma in stout, well-fed people, Sir William Broadbent recommends sipping a large tumbler of very hot water at bedtime. A cup of strong coffee in many instances does good. Smoking relieves some cases, and the best thing to smoke (it may be smoked by ladies also) is dried stramonium. This plant will grow in any garden. The leaves should be dried (they can be had from a chemist ready prepared if they cannot be grown), and can be smoked in a pipe or rolled into cigarettes. The "Cigares Anti-asthmatique" (Joy) are excellent for asthma, especially for hay-asthma.

People subject to this ailment urgently require fresh air, living in ill-ventilated rooms will make it much worse; they should guard against constipation, take plenty of open air exercise, and lead healthy lives, such as will strengthen the system. Children often suffer from asthma, but they usually grow out of it, especially if they can live in a high, dry, bracing climate.

* This is the paper the recipe for which is given above as No. 2.

Biliousness is caused by derangement (generally by sluggishness or inactivity) of the liver, which is the organ that secretes *bile*, an important factor in the proper digestion of food, especially fatty foods, which it is the function of the bile to emulsify so that it can be assimilated into the blood. When the liver does not act properly the bile may pass into the blood—in this case jaundice will arise; or bile may be insufficiently secreted, so that digestion is interfered with. Chills, want of exercise (exercise, especially walking, and riding on horseback, agitates the liver, and so keeps it in proper working order*), over-indulgence in alcohol, constipation, indigestion, and over-eating, particularly rich foods, mental distress, overwork, and excitement, all are important factors in bringing on bilious attacks. Some people are more prone to these attacks than others, because their livers are easily put out of order.

Symptoms.—Giddiness, nausea, vomiting, dull pain in the right side and shoulder blade, irritability of temper, depression of spirits, chilliness, loss of appetite, constipation or diarrhœa, dimness of sight, double vision, creeping sensations in the arms and legs, sore throat, are all symptoms which attend derangement of the liver; not, as a rule, all these symptoms together, but one or more of them, as the case may be.

Treatment.—Avoid the causes above mentioned, particularly chills, want of exercise, and constipation; wear woollen underclothing; and when symptoms appear take a blue pill (3 to 5 grains) at night,† and an aperient draught in the morning. *Note.*—Remember that only one such pill must be taken at a time, and they must on no account be taken night after night; one in a fortnight is enough, unless a doctor should order them to be taken.

Many of the foreign mineral waters, Rubinat, Friedrichshall, Hunyadi Janos, etc., are excellent for biliously inclined

* “Exercise tends to expel bile from the liver, and prevent its accumulation in the biliary capillaries, but a little *brisk exercise*, as in riding, rowing, climbing, tennis, etc., will have in a few minutes a more beneficial action than a lazy constitutional walk of a couple of hours.”—LAUDER BRUNTON, M.D.

† Some people can take larger doses of blue pill than others; it depends upon the individual constitution. An aperient, such as a dose of the Carlsbad water, must *always* be taken after blue pill, to clear the mercury out of the system.

people to take as a *preventive*, once or twice a week, but there is a prescription given by an eminent medical authority, Dr. Lionel Beale, F.R.S., for making artificial Carlsbad salts, *which will be found just as good as any of these, and it is less than half their cost.* This is the Carlsbad salts to which frequent reference is made in these pages. It is one of the very best purgatives that any one can take, causing no pain or griping, and effectually relieving the bowels without doing so excessively. It can be easily made at home.

Sulphate of soda (well dried)	4 ounces.
Sulphate of magnesia.....	1 „
Chloride of ammonium.....	$\frac{1}{4}$ „
Nitrate of potash.....	$\frac{1}{4}$ „
Common salt.....	1 „

The prices of these salts are as follows:—

	s.	d.
<i>Sulphate of soda</i> (pure dry), per oz.....	0	2
Do. crystals, per lb.....	0	8
Do. do. taking 7 lbs., per lb.....	0	6
Do. commercial, per lb.	0	3
<i>Sulphate of Magnesia</i> , per oz.	0	1
Do. (pure dry), per lb.	1	6
Do. (crystals), per lb.....	0	6
Do. commercial, per lb.....	0	2

The chloride of ammonium and nitrate of potash cost about the same, or less.

From this it will be seen how very cheaply this excellent medicine can be made at home. Rubinat and the other purgative mineral waters cost from 1s. to 2s. a bottle; but if the salts are prepared as above, a water just as efficacious can be made, giving the same number of doses for 6d. If the sulphates of soda and magnesia be bought in the “pure dry” state, the ingredients merely require thorough mixing and keeping in a stoppered bottle (one with a ground glass stopper most effectually excludes the air). If they are bought in “crystals” they must be powdered with a rolling-pin or in a mortar, and then mixed with the other things. When prepared with the crystals the salts tend to liquefy, which does not matter, if but a small quantity, as given above, be made at one time, but if the “pure dry” sulphates (which cost a trifle more) are used the mixture will not liquefy, and will keep dry for an indefinite time in a stoppered

bottle. If a large quantity be made, it is better either to use the "pure dry" sulphates, or to dry the crystals on a plate in a slow oven and then powder them.

The dose is from a half to one or two teaspoonfuls of the salts in a *large* tumbler of warm water (a "soda-water tumbler" is the best). It is not a pleasant tasting draught, being, in fact, exactly like Rubinat or Friedrichshall water, but it is very excellent for the liver, and for gout, rheumatism, etc., as it washes *uric and lactic acids* (which are the chief factors in the production of gout and rheumatism) out of the system. It is important to take it in a good quantity of water.

Dr. Sydney Ringer says: "Patients sometimes say they have tried Carlsbad water without good results, when they have simply taken Carlsbad salts dissolved in a small quantity of water. In such a form the Glauber salts* purge, but fail to yield the same excellent results as when given largely diluted with water. I have no doubt that the large bulk of water plays a prominent part in the therapeutic effects."

Instead of swallowing the draught in one or two gulps, it is better taken in sips (during the course of dressing, for instance). Dr. Lauder Brunton says: "The secretion of bile is not only increased, but the *pressure* under which it is secreted is *raised by sipping fluids*. This is, in all probability, due to nervous influence. . . . It is probably in consequence of this fact that Carlsbad water, when taken in numerous sips for an hour or more, as at Carlsbad itself, is so exceedingly efficacious in hepatic† diseases."

The dose, as with all aperient medicines, is best taken first thing in the morning before breakfast, but sometimes working people find this very inconvenient, except on Sunday, "which," said Dean Swift, "is the best day in the week for taking medicine." If so, it may be taken before dinner, tea, or supper, taking care that three or four hours have elapsed since the last meal. By taking proper precautions, as given above, much distress and suffering from biliousness may be avoided. There are certain articles of

* Glauber's salts is another name for sulphate of soda, Epsom salts for sulphate of magnesia.

† Pertaining to the liver.

diet which are specially likely to induce bilious attacks ; a list of them may serve as a useful reminder for biliously inclined people to avoid them :—Coffee, hot milk (this taken at night will probably induce a fine bilious attack in the morning), herrings, salmon, eels, beer, creams, pastry.

In slight bilious attacks, caused by rich, indigestible food, which causes nausea, a dose of bicarbonate of soda (a teaspoonful in a wineglass of water) gives great relief.

HOUSEHOLD SALINE.*

The following recipe makes a most excellent household mixture for using as an effervescing *cooling saline draught*. It is good for bilious and slight feverish attacks, and may be safely given to children. It is very refreshing as a morning draught for those who over-night have dined “not wisely but too well.”

Bicarbonate of soda.....	2 ounces.
Tartaric acid	1½ „
Powdered sugar	½ „
Rochelle salts	½ „
Chlorate of potash	1 drachm.

Mix well and keep in a stoppered bottle. Dose—a teaspoonful in a tumbler of warm or cold water ; drink while effervescing.

Bladder, Irritability of.—The causes of this distressing condition are various. It requires medical treatment, but it may be useful to mention here one or two home remedies which give relief. First of these is demulcent or soothing drinks. Barley water, or linseed tea (two ounces of whole linseed to a quart of water) flavoured with lemon and sweetened, are the best of these. They should be boiled till of the consistence of thin cream. Spirits, wine, and spices increase the trouble greatly. Hot hip baths are very useful ; if there is *difficulty in passing water*, sitting in such a bath frequently brings relief, or applying over the lower part of the abdomen a large sponge or flannel wrung out of boiling water.

* This will be found quite as good as any of the Pyretic Salines advertised so largely, and can be made in large quantities for a few pence.

Boils.—These are too well known to need a description of their symptoms.

Cause.—Some people are much more prone to boils than others, probably from constitutional impurity of the blood. Bad drainage, which causes a leakage of drain air into the house, is a frequent cause of boils. Overcrowding, sleeping in badly ventilated rooms, and unhealthy living of any kind predispose to boils, as the blood is made impure thereby.

Treatment.—The Household Saline is very useful. Take every other day, before breakfast, for a week. Nourishing but plain food, and cod-liver oil is very important for weakly patients. An old-fashioned country treatment which is often found beneficial is a teaspoonful of *yeast* taken twice a day after meals; as it can do no harm it may be tried. As a preventive for those who are subject to boils, *sulphur* is useful. Five grains three times a day in a little water midway between meals.

As a local application for boils nothing is better than *carboliced glycerine*; it draws and heals. Apply as directed for abscesses, or smear over the boil and cover lightly with lint, omitting the poultice.

Dr. Ringer says: "Camphorated alcohol has been recommended as a remedy for boils at their earliest stages, applied three times a day for half a minute, afterwards letting the skin dry, and then smearing it with camphorated oil. It is said that a few applications will usually disperse the coming boil."

Camphorated alcohol is made by dissolving one ounce of camphor in nine ounces of rectified spirit.

Breath, Offensive.—This comes from three causes (unless in those rare cases when it proceeds from some disease of the mouth or throat):—1. Decayed Teeth; 2. Neglected Constipation; 3. Derangement of the Stomach. (See Indigestion and Biliousness.)

A visit to the dentist will remedy the first cause. If there are decayed teeth in the mouth an antiseptic mouth wash should be frequently used. The cheapest are—1. Solution of *permanganate of potash*. One halfpennyworth mixed with two or three quarts of water. After using this the

teeth should be cleaned with a little precipitated chalk.*
2. Solution of boracic acid; a tablespoonful in a pint of boiling water. Carbolic mouth washes can be had from any chemist. The hollows of decayed teeth or stumps should be filled with a bit of cotton wool soaked in tincture of myrrh and borax; this will sweeten the breath. The same tincture, used in the proportion of a teaspoonful to a tumbler of water, makes an excellent and purifying mouth wash. An occasional blue pill, followed by an aperient, will remove the offensive breath caused by derangement of the stomach.

Bronchitis (acute) is an inflammatory affection of the tubes which carry air into the lungs.

Symptoms.—Cough, fever, and wheezing in the chest, with the secretion of a frothy phlegm which is of a very sticky glue-like nature.

Causes.—Neglected colds often turn to bronchitis. Exposure to cold and wet, want of flannel underclothing, and *breathing impure air*, are all causes inducing this disease.

Treatment.—Bronchitis is extremely dangerous to the very young and the very old; in such cases especially the treatment must not be delayed a moment. The patient must be kept in bed in a warm room, with the temperature not lower than 65° F. night and day. Hot linseed poultices (see p. 370), or spongiopiline wrung out of boiling water, should be applied in severe cases for twelve hours or more. That is to say, poulticing must be kept up for that length of time, the poultices being renewed every two or three hours. The reason why poultices are so important in bronchitis, inflammation of the lungs, and throat and chest complaints generally, is that they draw blood to the skin and so relieve the blood pressure on the inflamed parts. The chest walls in children are thin; this is one reason why poulticing is so useful in children's chest complaints. In all serious cases (both adults and children) the poultices should be applied back and front. The lungs reach nearly to the waist at the back—this is important to remember in

* Precipitate of chalk is the best tooth powder that can be used; it neutralises the acid secretions of the mouth and so preserves the teeth.

inflammation of the lungs. A thicker poultice may be applied to the back than to the chest; *if a heavy poultice be put upon the chest it may seriously impede the breathing.** A layer of heated cotton wadding laid over the poultice, and the whole bandaged with flannel, keeps in the heat, and thus prevents the poultice from quickly cooling. When changing poultices, always have the new one ready *at the bedside*, to pop on directly the other comes off, and when the poulticing is over, rub the skin dry with a hot towel, and cover quickly with hot flannel. In slight cases of bronchitis, confinement to bed in a warm room, and the application of an "artificial poultice," applied as follows, will often effect a cure:—Take one yard of cotton wadding, cut a slit nearly, but not quite, in the middle of it, through which the head can pass; the longer end covers the back, the shorter end the chest; hold it before the fire until very hot, put it on and cover it with oiled silk, bandage the whole comfortably with broad bands of flannel. The covering of oiled silk causes the wool to act like a poultice by keeping up a warm moisture on the skin; but as it acts slowly, it is not sufficient in severe cases, when it is essential to give quick relief. It requires no changing, a matter of importance when an experienced nurse is not at hand, but can be kept on for some days till the patient is convalescent, then the wool can be torn off bit by bit, so as to wear it away gradually. The back and chest must be well covered with flannel till the patient is quite well.

In bronchitis the diet should be very light, and while the feverishness lasts, liquid nourishment—milk, beef-tea, barley water, beaten-up eggs, curds and whey, and broths, are best. Some stimulant is often necessary—whisky in water or milk is the best. In the bronchitis of babies, a few drops of whisky in a dessert-spoonful of warm sugar and water given occasionally has a wonderfully good effect. Five drops of ipecacuanha wine in a tablespoonful of water once or twice a day is useful to loosen the phlegm. Adults may take ten drops. When the phlegm is very tenacious, and expectoration is scanty, this prescription will be found very useful—

* I have heard of a case in which death was said to result from a heavy poultice on the chest.

Carbonate of ammonia	40 grains.
Tincture of squill	$\frac{1}{2}$ ounce.
Sulphuric ether	2 drachms.
Concentrated infusion of senega.....	1 ounce.
Syrup of tolu	$\frac{1}{2}$ „
Water to make 8 ounces.	

Two tablespoonfuls every fourth hour. This is very suitable for old people. Another useful prescription is—

Carbonate of ammonia.....	40 grains.
Tincture of squill	3 drachms.
Tincture of senega	2 „
Hippo wine	80 drops.
Compound tincture of camphor.....	3 drachms.
Syrup of tolu	$\frac{1}{2}$ ounce.
Water to make 8 ounces.	

An eighth part every four hours, day and night, unless patient is asleep. *For adults only.*

For infants and young children suffering from bronchitis, an excellent mixture is—

Oxymel of squill	2 teaspoonfuls.
Sal volatile	1 „
Hippo wine	1 „
Water to make the whole up to 3 tablespoonfuls.	

One teaspoonful every two hours for an infant under a year; two teaspoonfuls every two hours for an infant over a year.

Bronchitis (chronic).—This may last for months; there is not the amount of fever that attends acute bronchitis, but the cough is very troublesome, expectoration (it is frequently streaked with blood) is excessive, shortness of breath is very troublesome, and there is often wasting. This is a very difficult ailment to cure, especially as it chiefly occurs in people whose occupation causes exposure in inclement weather, but it should on no account be neglected, as it is often fatal just on account of persistent neglect. Rest and care during inclement weather should be insisted on, a flannel chest protector worn night and day as well as flannel underclothing, and cod-liver oil should be taken two or three times a day—a teaspoonful for each dose—and nourishing, plain food, and regular inhalation of ipecacuanha wine should be persisted in. It should be used as follows:—Put into a spray producer (a toilet scent sprayer, which can be bought for one shilling, will do if a

medical spray producer is not at hand) one tablespoonful of ipecacuanha wine and two of tepid water, hold the spray at arm's length, open the mouth wide and take a deep inspiration, working the spray at the same time and taking care to keep the tongue depressed, so that the entrance to the windpipe may be open; if the saliva gathers freely spit it out. This must be done night and morning, from twenty to thirty squeezes of the spray being used first, increasing the number gradually up to seventy or eighty, and diminishing when improvement begins.

The inhalation of terebene or common turpentine is very useful in any kind of bronchitis. A tablespoonful or two of either may be put into a jar, and a pint of *boiling* water poured over it; this should stand close to the patient's bed, so that he can easily inhale the fumes, or 10 drops of terebene put on a handkerchief may be held over the mouth. Many people have great faith in steam kettles for bronchitis, but they often do more harm than good, especially to rheumatic patients, and should only be used under medical direction.*

Chafing of the skin between babies' legs is nearly always the result of carelessness. It is caused by want of proper changing, and by the bad habit of putting on diapers that have been merely re-dried after use, instead of being, as they always should be, soaked in warm water for several hours. They should never be washed with soda, nor should blue be used in doing them up; these things tend to cause chafing. Little children in charge of careless nurses in frosty weather often suffer severely from chafing for want of being properly dried.

Treatment.—Wash the chafed parts, when needful, with barley water, gently dry with a soft towel, and grease thoroughly with vaseline, or, better still, with boracic acid

* "There is good reason to think that many attacks of bronchitis, pneumonia, and congestion of the lungs have been occasioned by breathing through the mouth instead of the nose in cold weather. It is important that the cold air which is inhaled should pass over the surface of the mucous membrane of the nasal passages in order that it may be warmed before it reaches the windpipe and lungs."—LIONEL BEALE, M.D., F.R.S.

The *habit* of keeping the mouth shut and breathing through the nose out of doors in winter is one that may be easily acquired with a little perseverance. It is a habit that children should be taught.

ointment or zinc ointment. *Greasing* is a better protection against chafing than powdering. For adults' use either of the above-mentioned ointments are excellent, or Carbolic Ointment may be used. It smarts at first, but is very healing. As a powder for toilet purposes for infants or adults the best and cheapest is *boracic acid powder*, which is an antiseptic, and better than any of the violet powders supplied by hairdressers, which sometimes contain white lead, and should never be used for infants. Boracic acid powder is sold, scented and coloured, under fancy names, but the cheapest way to get it is to buy it by the ounce or pound at the chemist's, and scent it with a pennyworth of orris root.

Chapped Hands or Lips.—*Causes.*—Imperfect drying after washing, exposure of the hands in frosty weather, wearing coarse woollen gloves, and washing with coarse soap.

Treatment.—Dry well after washing, using bran or oatmeal in the water. If severely chapped, anoint well with zinc ointment or boracic acid ointment, or rub well with equal parts of glycerine and rose water. The hands should be well anointed before going to bed, and gloves put on and slept in, using, if possible, a pair of soft old suède or chamois gloves. This treatment must be persisted in for some days. In frosty weather it is a good plan to powder the hands with fuller's earth, oxide of zinc, or boracic powder after washing, or rub in each time a little glycerine and rose water (1 to 16), and then dry it off. This treatment will keep the hands in nice condition in the worst weather. *Rough hands.*—Dr. Malcolm Morris says: "To those troubled with roughness of the hands I would say, do not attempt to remove such roughness with pumice-stone; it is a common and most pernicious practice, increasing the mischief it is employed to remedy."

Vinegar or lemon juice and salt quickly removes ink stains from the fingers.

Chilblains.—*Cause.*—Depressed vitality and slow circulation causes, in cold weather, these inflamed patches to arise on various parts of the body, usually on the fingers and toes. Tight boots, especially elastic-sided boots, which

compress the feet, are very likely to cause chilblains. Good thick easily fitting leather boots, lined gloves, and plenty of warm woollen underclothing should be worn by those who suffer from chilblains. Exercise in the open air is *specially necessary*. School girls who don't get enough play, and shop girls, are the chief sufferers from these winter torments. The tincture of red cinchona bark (see p. 295) and cod-liver oil mixed should be taken three times a day in winter. This is a capital tonic and preventive of chilblains. Plenty of milk and nourishing food is also most necessary. If cod-liver oil cannot be taken, a little port wine and bark may be substituted, or small doses of cream. Sleeping in a cold room will greatly aggravate the symptoms.

Symptoms.—Itching, burning, and irritation of the skin, and the formation of an inflamed patch on the skin, which in bad cases, and if treatment is neglected, breaks and forms a kind of sore.

Treatment.—Attend carefully to above suggestions, and use any of the following applications:—

UNBROKEN CHILBLAINS.—1. Iodine ointment. 2. Bathing in water in which celery has been boiled; the water should be as hot as can be borne. 3. Carbolised glycerine. 4. Chloride of ammonia, one pennyworth dissolved in a teacupful of water; dab it on occasionally with a bit of cotton wool, cover with wool or lint. This kills the chilblain. 5. *A Russian Remedy*: Dry the peelings of cucumbers, and when needed for use soften the inner part with water and apply it to the chilblain. 6. *Dr. Grave's Preventive*: "Sulphate of copper 10 grains, water 1 oz., dissolve; brush over the parts with the lotion by means of a camel-hair brush, and when dry apply a little simple ointment. Repeat for some evenings in succession" (Henry Beasley). 7. *An American Remedy*: Put some red hot coals on a shovel or tin plate, throw a handful of corn meal over them, and hold the affected part over the smoke. 8. One oz. flexible collodion, 1½ drachms belladonna liniment, 1 drachm aconite liniment, 10 drops carbolic acid; mix well, and paint the chilblains with it every night. 9. Paint with iodine once or twice a day, and cover immediately with lint. 10. Paint with hazeline. 11. In slight cases, bathe with hot water, dry, and rub on fresh lemon juice. 12. A tepid hand

or foot-bath, with one or two teaspoonfuls of nitric acid, according to the amount of water used. This is very soothing. 13. Cajeput oil. This is said to cure often after only a single application.

BROKEN CHILBLAINS.—1. Equal parts of Balsam of Peru and simple ointment spread on rag or lint. 2. Six drachms of almond oil; 3 oz. benzoated lard; 1 drachm of carbolic acid in crystals; $\frac{1}{2}$ oz. oxide of zinc. Dissolve the crystals in the oil with a gentle heat, and add the lard. When melted and mixed, sift in the oxide of zinc and stir till cold. Smear some on the chilblains every night, covering with lint or soft rag.

Clergyman's Sore Throat.—This is a very obstinate and troublesome ailment of the throat, brought on by overstraining the voice. It may, of course, attack any one who speaks much in public, as well as clergymen. It arises from the glands becoming exhausted from persistent efforts in speaking, and they fail to secrete sufficient moisture to lubricate the throat, which becomes sore, relaxed, and granulated, and the voice weakened, so that speaking may be painful. Constant public speaking in the open air, in crowded, ill-ventilated rooms, or when the speaker has a cold, is very injurious to the voice, and is particularly apt to give rise to this ailment of the throat. The ordinary treatment is painting the throat with glycerine of tannin, sucking chlorate of potash and borax lozenges, spraying the throat with a tannin solution (3 grains of tannic acid in 1 oz. of water), leaving off smoking, stimulants, and condiments, and strengthening the system by sponge baths followed by brisk rubbing, with plenty of exercise in the open air, and wearing flannel underclothing; but, after all, these are merely palliatives, and do not cure, or at least not for a long time, and this may prove a very serious inconvenience or loss to a professional man. Fortunately, now a better method of treatment is employed, by the destruction of the granules in the throat by the galvano-cautery. Dr. De Haviland-Hall says: "It is only recently that really satisfactory treatment for this troublesome affection has been introduced. Though relief may be obtained," as by above-mentioned treatment, "the only hope of curing the patient

consists in the destruction of these granules. For this purpose the galvano-cautery is by far the best form of caustic. Each granule must be touched with the galvano-caustic point or blade at a dull red heat; four or five applications can be made at a sitting. The sittings should be at intervals of a week or ten days, and usually four or five suffice. If this be thoroughly carried out, the result is most satisfactory, and there is but little tendency to a relapse." Thus in about six weeks a permanent cure may now be effected for what formerly was a most intractable complaint. It is needless to say that this treatment can only be undertaken by an experienced doctor. The pain of the operation need not be dreaded, as a local anæsthetic can be applied to the throat.

Colds and Chills.—Colds should always be treated at once. Nowhere does the proverbial stitch in time save nine so surely as in the prompt treatment of a cold, which can generally be quickly cured if taken in time, but if neglected it is very apt to fasten on whatever part of the system is weakest. People who have an inherited tendency to consumption should specially beware of neglecting colds, which, if let run on, may cause the latent seeds of the disease to start into life. There are two very simple remedies for curing colds at the commencement:—1. *Extra warmth*; 2. *Rest*. Many a cold may be "nipped in the bud" by merely putting on some extra flannel and staying in bed in a well-warmed room for a day or two. If the cold is accompanied by shivering and pains in the bones, it is most important that the patient should go to bed at once, lie between blankets, not sheets, and take a hot drink which will promote perspiration. The best thing for this purpose is hot barley water sweetened to taste, and with a dessert-spoonful of sweet spirits of nitre added to the pint of barley water. This, if taken hot, will soon cause the patient to perspire freely if he is well covered with blankets and has a hot jar at the feet. Hot whey is also very good for this kind of shivering cold. The following are recipes for different kinds of whey:—

Brandy Whey.—Put a dessert-spoonful of essence of rennet into a pint of warm milk, let it stand near the fire

until it forms into a curd (which will be in about ten minutes), then break up well with a fork; strain off the whey through muslin or a sieve, sweeten to taste, make hot, and add a tablespoonful of brandy. This is better than the ordinary "white wine whey" generally used.

Treacle Whey, or *Posset* (a country recipe for a cold), is made by stirring two tablespoonfuls of treacle into a pint of boiling milk, letting it boil up, and straining off the whey.

Cream of Tartar Whey (cooling, and helps to make the kidneys act) is made by stirring a heaped teaspoonful of cream of tartar into a pint of boiling milk; boil, strain, and sweeten.

Barley Water is easily made by well washing some pearl barley and simmering it in water till of the required thickness, then strain. A heaped tablespoonful of barley to a quart of water will usually be found sufficient. It may simmer for an hour. The longer it boils the thicker it will be. If too thick it can easily be thinned by adding water. A little of the *yellow* part of lemon rind* boiled with it will flavour it pleasantly; sweeten to taste.

Antipyrin or *Antifebrin* or *Phenacetin* are excellent things for reducing temperature and promoting perspiration, but they are drugs that must be used with caution, as they are very dangerous for any one with a weak heart. For those who can take them safely they are marvellously good remedies for many "every-day ailments"; 5 to 15 grains will often cut short a feverish cold if taken at bedtime. The best way to take either of these is to put the powders far back on the tongue and swallow a draught of water.

Spirits of Camphor, or tincture of camphor, will by itself often cure a cold if taken on the appearance of the first symptoms. It is the best possible remedy for a chill, or to promote warmth after a wetting. It may be taken at any time of the day, but preferably when going to bed. Dose for an adult, 10 to 20 drops, which may be repeated in an hour or two if necessary. It may be taken on sugar or on a bit of bread crumb, which is more easily swallowed than sugar, and followed by a draught of water.

Foot-Bath.—Bathing the feet and lower parts of the legs

* Always avoid the white pith of lemon rind in making lemonade or other drinks; it imparts a very bitter taste to them.

in mustard and hot water* before going to bed is a well-known remedy for a heavy cold. It is far better when doing this to put the feet at once into hot water that can be comfortably borne, and then gradually add hotter water, because after being immersed for a few minutes a much greater degree of heat can be borne than at first. This is a much better plan than the usual one of placing a foot-bath of nearly boiling water before the patient, over which he holds his feet, dipping the toes from time to time till the water has cooled enough to allow of his putting his legs in. Obviously *this* is not good treatment for a cold. The feet, up to above the ankles, should be plunged straight into reasonably hot water, a warm blanket should envelop the patient from the waist downward, and after a few minutes, one corner of the blanket being lifted, hotter water should be gradually poured in till it reaches the knees. From ten to fifteen minutes is quite long enough for a foot-bath to last. Hot towels should be ready for drying directly the feet are withdrawn from the water, and they should be quickly wrapped in hot flannel, and the patient well covered up and given a hot drink. Unless the patient can stay in bed the next day there is no use in taking hot baths to cure colds, as exposure after such treatment will probably be followed by serious results. An entire hot bath for a cold should only be taken when it can be had in the bedroom before a fire. If the patient has to go from the bath-room through passages after a hot bath, he will do his cold more harm than good by taking it. Those who are prone to take cold easily should strengthen the system by taking cod-liver oil, beginning to take it when autumn commences, and only taking it once a day (a teaspoonful directly after meals, or first thing in the morning when the stomach is empty) until they see how it agrees. Then it may be taken twice and (if agreeing) thrice a day, but always in *small* doses. It should be remembered that oil *is not easily digested*. Many people do themselves much harm, and finally have to leave off taking cod-liver oil altogether, because, when they find a little is agreeing with them, they go on increasing the dose

* Two heaped tablespoonfuls of mustard to four quarts of water is about the right proportion. Mix the mustard to a paste in a small basin with tepid water and add to bath.

till they bring on dyspepsia. A few drops of essence of peppermint in water covers the taste of the oil, or lemon peel may be chewed before and after. When cod-liver oil cannot be taken, very small doses of cream make a good substitute, but this also will disagree very much if taken in large quantities.

Woollen underclothing, strong boots, and warm stockings, plenty of outdoor exercise, living in well-ventilated rooms, and being indoors in winter before sunset, are most important things for the prevention of cold-catching. A tepid or cold bath quickly taken, and followed by a brisk rubbing, is also valuable for strengthening the system.

Cold in the Head, or Catarrh.—The smelling bottle mentioned at page 331 for hay fever, or finely powdered camphor used as snuff, or the compound menthol snuff, which can be procured at any chemist's, are all useful for curing catarrh, and may be freely used. An inhalation of camphor is often found very beneficial. Two teaspoonfuls of strong camphorated spirit in a pint of *boiling* water should be put in a small jug, round the neck of which a towel is twisted so that an aperture is left that will just receive the mouth and nostrils. The steam should be inhaled for two or three minutes at a time; but care should be taken not to go out, or even into a cold room, for a considerable time after such inhalation. A bit of cotton wool saturated with a 10 per cent. solution of menthol, and put up each nostril when the cold first appears, if allowed to remain for four or five hours, is said to speedily cure it. Chlorate of potash is highly recommended by Dr. Sedgwick for catarrh. He says, "It quickly relieves stuffing of the nose, rawness of the throat, and thickness of voice. Taken early and frequently, it will stop many a cold." Eight or ten lozenges should be sucked in the twenty-four hours. *Salt* is said to be useful in curing nasal catarrh. A weak brine is made warm and sniffed up the nose, allowing it to run down the throat; or very fine salt may be used like snuff. Wrapping the head up warmly in a piece of flannel or a knitted cloud will often cure a cold without other means. If the patient has to go out in cold weather, the simple expedient of putting some wool in the ears will often keep the cold from getting worse.

Colic—*i.e.*, violent pain in the bowels—comes either from cold or from having eaten something which disagrees; this causes what is called *wind*, but is really gas generated in the intestines by unhealthily fermenting food. A dose of castor oil with a tablespoonful of brandy in it, or an enema of soap and warm water, is the best remedy, as it clears out the irritating matter; indeed the best plan is to give both these at the same time, as the enema will act quicker than the oil, and so give relief, and the oil will prevent a recurrence of the pain. A bag of very hot salt or sand* on the abdomen, or large squares of house flannel wrung out of boiling water (see page 371), and sprinkled with a teaspoonful of turpentine, applied to the abdomen, and renewed as they cool (only using the turpentine for the first two or three), will give wonderful relief in this excruciating pain. Five to twenty drops of spirits of camphor on sugar or bread crumbs will also give great relief in flatulent colic.

Note.—It is very important to remember that when there is pain in the belly *with tenderness on pressure, and constipation*, purgatives or enemas should on no account be given, but a doctor should at once be sent for, as these symptoms may indicate an intestinal stoppage or obstruction, or the existence of inflammation, which may very soon prove *fatal* if not treated by an experienced doctor.

Constipation.—This very common ailment is constantly brought on by neglecting to see that the bowels act every day. This is often a mere matter of habit which a little regular care can secure. There are three things which sufferers from constipation should take—1. Regular exercise in the open air, because this strengthens the system, and therefore tones up the intestines, from the defective mechanical action of which† constipation frequently proceeds. 2. Salt with food, because salt promotes the

* The bag should only be half filled, so that it may not be too heavy, and may adapt itself comfortably to the stomach. After being stitched up it can be heated in the oven.

† The *peristaltic* action of the intestines causes their contents to be evacuated. This action resembles the movements of a worm or leech along the ground, when they contract themselves into a small compass and then lengthen out. If the intestines are in a flaccid or sluggish condition from debility or any other reason, they naturally do not move in this way with sufficient vigour to expel their contents properly.

intestinal secretions and furthers their healthy action.

3. A sufficiency of fluid with meals, because this tends to soften the contents of the intestines. To this end also a tumbler of hot or cold water (according to taste) should be taken the last thing at night and the first thing on getting up in the morning. This simple dose of itself will often overcome constipation. Things to be especially avoided are—1. Fresh bread or cakes. 2. Strong tea, because it is an astringent. 3. The use of much meat. (A course of vegetarianism for a few weeks is often useful.)

Cocoa, coffee, or barley water and milk are better beverages than tea for the sufferer from constipation; tea, when taken, should be weak. Brown or whole-meal bread is better than white bread, and it should be well buttered. Butter or fat in any form is a useful preventive of constipation. Fruit eaten before breakfast, stewed fruit with any or every meal, spinach, salad well dressed with salad oil, and oatmeal porridge with treacle, are all good for overcoming this trouble.*

The following is a list of simple and useful aperients:—
1. The Carlsbad salts (as at p. 300); the regular use of this twice a week will generally cure the most obstinate cases, and it does not tend to increase the constipation afterwards, as some aperients do. 2. Castor oil. 3. Compound liquorice powder (very good for delicate women and children). 4. Senna tea. *Recipe*: Boil for twenty minutes a couple of handfuls of senna leaves in a pint and a half of water, with an ounce of raisins and sugar to taste; strain. 5. Gregory's powder. 6. The Household Saline. 7. A few drops of Cascara sagrada.

A very useful preparation has been recommended to me by a country doctor. It is excellent for constipation, and is particularly useful for children, as they take it eagerly. Put a pound of figs in a pie-dish, prod each fig well with a fork, and cover them entirely with good salad oil. Give one or two at bed-time.

Cod-liver oil is said, on good authority, to be of great use in overcoming obstinate constipation in children.

* Constipation causes impurity and pollution of the blood, and it is this which causes, in many people, slight wounds and scratches to heal slowly.

Massage of the bowels is extremely useful in chronic cases and for children. *Method*.—Press gently down on the right side of abdomen, using the palm of the hand and ball of thumb, and move the hand towards the left; go on like this round and round for ten minutes, making *gentle* pressure. This follows the course of the intestines, and excites their action. Constipation in bottle-fed babies can be easily cured by putting as much *phosphate of soda* as will lie on a threepenny piece into the bottle three times in the twenty-four hours. A useful laxative for very young children is 3 to 10 grains of magnesia in a teaspoonful of syrup of roses. For babies, 30 to 60 grains of manna in water or milk is a simple and excellent aperient. A *soap suppository* is quite safe for use with infants or children. Cut a piece of soap the size of a child's little finger, make a blunt point on one end, oil it and *gently* pass it about an inch into the intestinal passage. Withdraw in half a minute.

Corns.—These are entirely caused by pressure or friction from ill-made, badly-fitting, or too tight boots. They may often be rendered quite painless by merely paring all the hard part away with a sharp knife or razor, or by wearing a corn-plaster, which can be had for a penny at a chemist's; this, by keeping pressure off the centre of the corn, which is the part that communicates with the nerve, gives immediate relief. An excellent preparation for the relief and cure of Corns and Bunions, the invention of a Russian apothecary, Mr. Gezow, is the following:—

Flexible collodium (made by adding 20 grains
of Canada balsam and 10 minims of castor
oil to 1 ounce of collodium).

Salicylic acid	1 drachm.
Extract of Indian hemp.....	10 grains.

Mix well, and paint on the corn night and morning. The collodium forms a hard case (it should be covered with a bit of lint before the stockings are put on), which after some days can be picked out, bringing the corn with it. The application is a sedative, and relieves the pain of corns or bunions, for which it can also be used. It should not be painted on the surrounding skin, but only on the corn or union.

Caustic for Corns.—Mr. Henry Beasley gives the following recipe for a *Caustic for Corns*, of which he says that three applications are said to cure:—

“ Tincture of iodine.....	4 drachms.
Iodide of iron	12 grains.
Chloride of antimony.....	4 drachms.

Mix, and apply with a camel-hair brush after paring the corns.”* He also says, “A pinch of carbonate of potash placed on the corn after paring, covered with a bit of rag tied on, is a simple remedy.”

Sir Humphrey Davy’s name was given to a remedy which consisted of carbonate of potash and salt of sorrel similarly applied.

Another cheap remedy is—

Carbonate of soda.....	1 ounce.
Lard	$\frac{1}{2}$ ”
Mix. Apply on rag every night—paring the corn twice a week.	

Mr. Beasley also gives the following remedy:—“First bathe the feet in soap and water, and after dry them. Then melt carbolic crystals by a gentle heat, in a spoon over a candle for instance, and apply a thickish layer over the softened surface of the corn, taking care not to touch the surrounding flesh. After a few minutes apply to the layer of acid a piece of wadding or blotting-paper to absorb the excess of acid. Before applying the acid, surround the corn with a layer of collodion. Repeated at intervals of three or four days, this simple remedy is stated to effect a complete cure.”—Dr. SALEIM.

It must be remembered that if the carbolic (which is a corrosive) touches any but the hard part of the corn it will cause considerable pain, therefore care must be taken to apply collodion as directed, or to snip a hole in a piece of soft leather and lay it over the corn so as to allow the corn barely to come through the hole, while the surrounding part is completely protected, then the carbolic can be applied to the corn. If by inadvertence any of the carbolic should touch the skin, vaseline or oil should be immediately applied, as for a burn. After any of these applications the

* Half this quantity would be enough to have made up.

corn should be covered with a bit of lint—the smooth side next it—or the stocking will rub off the casing that should form, and in all cases the application should be allowed to *dry on* before the lint is put over it. Another simple remedy for corns is *Liquor potassæ*. Buy two pennyworth and dab a little on occasionally.

Coughs and Colds on the Chest.—Dry, hacking coughs are greatly relieved by swallowing occasionally a teaspoonful of glycerine. If the sweetness is objected to, mix it with a little lemon or orange juice.

Linseed Tea is a capital drink, and does good to any cough or cold on the chest.

Recipe for Linseed Tea.

Water.....	1 pint.
Whole linseed (<i>not meal</i>).....	1 ounce.
Juice of half a lemon, and a few strips of the yellow rind (very thin); liquorice, 1 small stick; a dozen or two of raisins; sweetening of honey or sugar-candy. Simmer for an hour; strain.	

A cheap and effectual Cough Mixture.

Paregoric	$\frac{1}{2}$ ounce.
White vinegar.....	2 tablespoonfuls.
Treacle.....	2 „

Mix well. Honey or sugar-candy dissolved in the vinegar till it is as thick as rich cream may be used instead of treacle.

Dose.—One or two teaspoonfuls occasionally. *This must not be given to young children, because paregoric is a preparation of opium,* which is specially dangerous for children. One drop of laudanum has been known to kill a baby.*

Prescription for an excellent Cough Mixture.

Compound tincture of camphor.....	$\frac{1}{2}$ ounce.
Spirits of nitrous ether.....	$\frac{1}{2}$ „
Oxymel of squill.....	$\frac{1}{2}$ „
Hippo wine.....	2½ drachms.
Chloroform water to make 8 ounces.	

Dose.—One tablespoonful every three or four hours *For adults only.*

* The very old are as injuriously affected by opium, which is identical with laudanum, as the very young, therefore medicines containing it must be given with great caution to old people.

A good and safe Cough Mixture for Children.

Vinegar.....	$\frac{1}{2}$ pint.
Sugar-candy	1 lb.
Hippo wine	$\frac{1}{2}$ ounce.

Mix, and give a spoonful occasionally.

Glycerine or honey and lemon juice may always be used with advantage for coughs. Local applications, as mustard plasters, or flannel, or spongiopiline wrung out of boiling water and sprinkled with a little turpentine, or linseed poultices, are of immense benefit in all chest complaints; the sooner they are applied the better. (See p. 370, for making poultices, etc.) Writing on the nursing of pneumonia (inflammation of the lungs), Dr. Day says: "In the shape of local applications, nothing equals a jacket poultice of linseed. It should be applied over the whole of the affected lung,* as hot as can be borne, and changed once in two or three hours. Generally speaking, poultices are not made large enough to envelop the diseased organ; the object aimed at is, not only to relieve pain, but to draw the blood to the surface, and so to act as a sedative on the inflamed or congested parts beneath. The chest walls of children are thin, and hence the value of poultices in lung affections is far greater than in the like diseases of adults. When moderately and cautiously used a turpentine stupe is very serviceable. A piece of thick household flannel should be folded the required size, then wrung out of hot water, and a few drops of turpentine sprinkled over it. This should be laid over the affected part of the lung and covered with a piece of oiled silk, or a dry fold of linen, and kept on for twenty minutes. When it is removed the skin will be found of a bright erythematous hue, and the cutaneous vessels will remain dilated for a considerable time. A layer of warmed cotton wool should be applied to the part directly the fomentation is removed."

When the cold is not severe enough to require poulticing, rubbing the chest with camphorated oil (1 ounce of camphor dissolved in half a pint of olive or sweet oil), and then

* Any one who is in doubt as to the exact position of their lungs should feel their ribs; wherever a rib is, a portion of the lung lies directly underneath.

covering with hot flannel, will generally effect a cure if the patient stays in bed for a day or two.

The *Artificial Poultice* mentioned under "Bronchitis" is a valuable remedy for colds on the chest. A flannel chest protector, made by cutting a slit in a yard of narrow width flannel, through which slit the head goes, so that back and chest are covered with the flannel, will save delicate people many a cough and cold if put on at first approach of winter. Four of them should be provided, so that they may be frequently washed, and worn night and day. Even a brown paper chest protector is better than nothing.

Deafness.—Temporary deafness is often caused by an accumulation of wax in the ear. It should be removed by syringing, *which should be done by a doctor*. Before resorting to this, it is well to try pouring from a spoon into the ear a little warm glycerine. The other ear should be lain upon during the process. Poking into the ear with hair-pins, etc., in the endeavour to remove wax, has sometimes resulted in injury to the tympanum or drum. The ear is a very complicated and delicate organ, and is sometimes incurably injured by ignorant or careless tampering.

Depression of Spirits often comes from physical causes, particularly from derangements of the liver. A five-grain blue pill at night, followed by a dose of the Carlsbad salts in the morning, will often remove the depression entirely.

Diarrhœa.—The three general causes of diarrhœa are—
1. Improper food. 2. Exposure to cold, or cold and fatigue, or wet feet. 3. A leakage of drain air, or air from cesspools, into the house. The *causes* of diarrhœa should be sought for, as there is little use in applying remedies to cure disease if the cause of the disease be not removed.

Treatment.—Rest, lying quietly in bed, is one of the most important means of curing diarrhœa. A broad band of warm flannel should envelop the abdomen, and be pinned into place with safety pins. A dose of castor oil, or even of plain olive oil, if the cause be food that has

disagreed, will clear away the irritating matter and cure the diarrhœa. This is generally found the best treatment for the diarrhœa of infants, which nearly always comes from something wrong in the feeding. Any of the following will be found to be good for diarrhœa:—

(1.) Aromatic chalk mixture, which any chemist can supply. (Mention whether for a grown person or child.)

(2.) *Diarrhœa Mixture. For Adults only.*

Aromatic chalk mixture.....	2 drachms.
Laudanum	80 drops.
Chloric ether.....	2 drachms.
Tincture of catechu	2 „
Peppermint water to make up to	8 ounces.

Shake well before taking. Dose—Two teaspoonfuls every third or fourth hour.

(3.) *For severe cases, or for Dysentery.*

Tincture of opium	80 drops.
Syrup of red gum.....	2 drachms.
Liquid extract of bael fruit.....	$\frac{1}{2}$ ounce.
Chloric ether.....	$\frac{3}{4}$ drachms.
Decoction of logwood.....	3 ounces.
Water to make up to	8 ounces.

Two tablespoonfuls every three or four hours.

(4.) A few drops of spirits of camphor on sugar or bread taken occasionally, or chlorodyne, according to directions on the bottle. (5.) 10 to 20 drops of laudanum in a glass of port wine, or in a tablespoonful of brandy,* will often be found an effectual remedy. (6.) For severe cases of summer diarrhœa or English cholera, Dr. S. Ringer recommends that 4 to 6 drops of strong spirits of camphor be given every ten minutes till patient feels better, then every hour till decided improvement (give on sugar or bread, or in water).

(7.) *Diarrhœa Mixture for Babies.*

For diarrhœa of infants or young children a good mixture is—

Aromatic chalk powder.....	60 grains.
Dill water	3 tablespoonfuls.
Sugar	half a teaspoonful.

* Unless the brandy is good and old it should be poured into a saucer and set alight for a few seconds; this removes some of the fusel oil.

Blend together well, and keep in a corked bottle. *Dose*—for babies, one teaspoonful every two hours; double the quantity for children over two.

There is no use in giving medicine for the cure of diarrhœa unless the diet is strictly attended to. Until the patient is completely cured *no meat of any kind, broth, fish or fowl, fruit or vegetables of any sort, should be taken.* Well-boiled bread and milk or arrowroot, with or without port wine or brandy; lime water and milk; corn flour; rice, with some stick cinnamon well boiled together in milk till thoroughly tender; or dry toast and tea, should be the only diet. Isinglass and milk may be freely taken; it is most valuable for the cure of diarrhœa at any age. The best way to use it is to dissolve a large pinch in warm water, and add it to a teacup of warm milk.

Rice Gruel.

Rice gruel is also excellent. Boil two ounces of ground rice and a quarter of an ounce of cinnamon in two quarts of water for three-quarters of an hour. Sweeten to taste. (Cinnamon is an *antiseptic*; for this reason it is valuable for use in diarrhœa.) All food should be taken warm; hot or cold food will aggravate the diarrhœa. In bad cases a starch enema (p. 371) will be found most beneficial.

It is very important while this complaint lasts that the feet should be kept very warm. A hot bottle should be in the bed.

Note.—Diarrhœa is specially dangerous for young children and old people. If it is not soon cured by treatment as above a doctor should be sent for. When children have a tendency to diarrhœa a tablespoonful of lime water (p. 371) should be added to the bottle, or breakfast cup of milk.*

Dyspepsia. (See Indigestion, p. 334.)

Earache is frequently caused, in the case of children, by letting them lie about on the floor near the door; the

* See directions for preparing "Raw Meat Diet," and other foods for patients with chronic diarrhœa, in section on "Invalid Feeding."

draught coming from under the door gives cold. Going to bed with the hair or ears damp after a bath, lying on grass or sea-beach when damp, leaning the head against draughty windows when a cold wind is blowing, are all means for acquiring this distressing pain. Toothache is often accompanied by earache.

Treatment.—1. Apply a bag of hot salt or india-rubber hot water-bottle to the ear. 2. Pour into ear equal parts of hot oil or glycerine and laudanum. 3. Tear up some tobacco and mix it with oil or glycerine; put it into a bit of fine muslin and put it into the ear. 4. Apply over ear a linseed poultice with a spoonful of laudanum poured over its surface. 5. Put a small mustard plaster, or rub mustard oil or liniment made with chloroform or with belladonna behind the ear. 6. Roast an onion, take out the heart, and put it as hot as possible into the ear. 7. Put half a teaspoonful of black pepper into a bit of fine muslin, tie it up (as a pudding is tied, leaving a bit of thread attached), soak it in any kind of spirits, or in Eau de Cologne, and push it *very* gently into the ear. This very quickly gives relief. 8. An American journal gives the following simple cure for earache:—"Take a common tobacco pipe, place a wad of cotton wool in the bowl, drop 10 or 12 drops of pure chloroform on it, cover with another bit of wool, place the stem of the pipe to the affected ear and blow into the bowl—in many cases the pain will cease almost immediately."

If these simple remedies fail to cure earache, a doctor should always be consulted. The ear is very near the brain, therefore great care is needed in treating all ear affections, as careless treatment may lead to abscess on the brain. When it is remembered that total loss of hearing may result from ill-treatment of this organ, it will be easily seen how much better it is to have medical assistance in ear ailments. Nurses should be instructed never to push screwed-up towels into children's ears after washing—it often does infinite mischief.

Ears, Discharge from.—Syringe with weak solution of boracic acid in warm water, and put salicylic wool lightly into the ear after. Never push *small* pieces of wool into the ear; they may get into the ear passage out of reach,

and do mischief. In all cases of discharge from the ears, if this treatment does not very soon cure, consult an aurist.

Eczema.—An inflammatory disease of the skin which occurs at all ages, but more particularly during the teething of infants, and in old people. It commonly begins with the appearance of puffy red patches on the skin, on which vesicles form and discharge a gummy fluid that forms a crust as it dries, and the skin becomes abraded, oozes constantly, and suffers from intolerable itching. In some cases there is no discharge, but the patches are dry, scaly, and itch intensely. In other cases there is only an eruption of minute red pimples, which dry up and scale off.*

Treatment should be by a doctor; but the following applications will be found most efficacious:—In acute eczema, when there is great swelling and inflammation, particularly of the face, lint wrung out of cold water and laid upon the affected parts, and then covered with gutta-percha tissue, will be found soothing. The lint must be re-wet from time to time. A thinly-spread linseed poultice, or a dusting of boracic acid powder or of fuller's earth, may also be used with advantage. For eczema with oozing and a raw surface, apply rags steeped in *lead lotion*. This is highly beneficial, and the application may be kept on continually, substituting, for convenience' sake, a linseed poultice at night, which can be fixed on with a bandage.

In *chronic* eczema, with dry scaly skin and great itching, *tar lotion* (order 4 per cent. solution of tar in a lead lotion) will be found valuable. Boracic acid ointment, or even vaseline, is also very useful in this form of the ailment. Dr. Ellis recommends *cod-liver oil*. He says: "As an external application to many obstinate forms of eczema of the head and other cutaneous diseases I have found it extremely valuable." It should be borne in mind that there is no "rule of thumb" treatment for eczema. What does good in one case may fail in another. It is well in trying fresh applications to experiment on a small part first before treating the whole surface. *Diet* is a very important matter

* This form of eczema has sometimes been mistaken for scarlatina, but as it is unaccompanied by sore throat, which is always present in scarlatina, this mistake should never arise.

in the treatment of this complaint. When it is accompanied with a constant oozing discharge, a nourishing diet (fresh meat, fruit, and vegetables) is needed, and a little stimulant. In the dry scaly form stimulants should not be given at all. The following food articles *should be carefully avoided* by sufferers from eczema:—Dried, salted, and preserved foods, dried fruits, coffee, condiments and spices, sugar and sweets* (these are specially pernicious), oatmeal. All kinds of fresh or cooked fruits or vegetables may be freely taken. Hard water must be carefully avoided for washing, also coarse soaps; rain water should be used if possible. Barley water, milk and water, linseed tea (an ounce of seed boiled in a gallon of water till like gum), or beaten-up yolk of egg, are recommended by many physicians instead of soap and water. When the skin is healing it is better to use no water for the time being, but in its place substitute fuller's earth. Neglected constipation will surely aggravate the disease and frustrate treatment; it must be carefully guarded against. Want of fresh air, good food, exercise, cleanliness, in fact unhygienic living of any kind, predispose to and intensify the suffering from eczema.

Eyes, Inflammation of. (See Ophthalmia, p. 343.)

Feet, Cold.—"Keep the feet warm with exercise, and the head cool with temperance," is an old doctor's proverb, and a useful one to remember. To keep the feet warm is very important for the health, and exercise is the best means to this end. Warm stockings, cork soles or a strip of flannel in the soles of the boots, and strong boots (preferable to shoes in winter), are important for people who suffer from cold feet. Dipping the feet into hot or cold water and then rubbing briskly with a rough towel, will produce a glow. A hot jar in the bed at night in cold weather is a necessity for people with slow circulation, and is *not* weakening, as is sometimes supposed. Nothing can be more likely to cause ill-health than lying awake with cold feet. A few drops of essence of ginger on a lump of sugar

* Saccharin may be used in all cases where sugar is forbidden. It is intensely sweet, but does not possess the fermentable properties of sugar. Any chemist will supply it.

is a capital "body warmer," and helps to quicken the circulation better than spirits.

Feet, Offensive Perspiration of.—Wash the feet night and morning with hot water and a strong carbolic soap (the Lifebuoy Carbolic Soap is the best of the kind), dry well, and dust freely with *boracic acid powder*. The stockings should be frequently changed. In bad cases a most useful plan is to dissolve one ounce of boracic acid in a pint of boiling water, soak the stockings in this (when it has cooled a little), lift them out and hang up to dry; when thoroughly dried wear the stockings. Rubbing belladonna liniment into the feet is also useful in bad cases.

Note.—This disagreeable ailment is sometimes the result of debility; cod-liver oil or a tonic should be taken, with fresh air and exercise.

Feet.—To prevent soreness and sweating during walking tours, races, and pedestrian exercise generally, there is nothing better than a mixture of—

Tallow.....	1 ounce.
Salicylic acid.....	$\frac{1}{2}$ drachm.

Mix thoroughly, and rub well in.

Rubbing the soles of the feet with any kind of spirits, or even with vinegar, hardens them and helps to prevent soreness.

Flatulence (popularly called *wind*; it really is *gas* generated from the fermentation of food not properly digested).—Any of the following will give relief:—(1) A small teaspoonful of *bicarbonate of soda* dissolved in a glass of water. (2) A charcoal biscuit or charcoal lozenges, or even a burnt crust eaten before or after meals. (3) 30 drops of sal volatile in water. (4) 10 to 15 drops of spirits of camphor on bread or sugar. (5) 3 or 4 drops of oil of cajeput or oil of cloves on a lump of sugar occasionally. (6) 10 drops of essence of ginger on a lump of sugar. (See also the mixture for flatulent indigestion at p. 337.)

Flatulence in Babies.—Infants suffer much from flatulence, which causes great pain and crying. Two tablespoonfuls of *cinnamon water* added to the bottle of food occasionally, or

a tablespoonful of dill water now and then, gives great relief.

Glandular Swelling comes from debility. Cod-liver oil, plenty of nourishing food, pure air, are needed. Sea air is also very valuable. The swollen gland should be painted with iodine occasionally. It is always important after painting with iodine to cover the part warmly *at once*, as if touched, scratched, or exposed to the air very troublesome itching and burning is almost sure to ensue. The skin hardens and peels off after a few applications of iodine; this does no harm, but the painting should not be resumed directly after peeling off the skin. A solution of whisky and salt is sometimes gently rubbed into the gland instead of painting with iodine, and is often of use in dispersing the swelling.

Gum-boil.—A good dose of the Carlsbad salts (p. 300) should be taken. Fomenting with very hot water, poulticing the affected part and applying a piece of alum the size of a pea between gum and cheek, are all useful remedies. The face should be swathed in a layer of cotton wool made very hot and bandaged on with flannel. Hot oil and laudanum poured into the ear and covered with wool often gives relief, especially when the gum-boil comes (as it generally does) from a decayed tooth. Lancing, when the boil is large enough, gives immediate relief. A gum-boil is often accompanied by great feverishness; a dose of 15 grains of antipyrin (if the patient can take antipyrin without danger; see p. 312) is one of the best things for reducing the fever and soothing pain. Nothing but liquid food should be given while fever, pain, and swelling lasts. The Household Saline is an excellent cooling medicine for feverishness, which often accompanies gum-boil.

Note.—The patient should thoroughly rinse the mouth with a weak solution of permanganate of potash and water (p. 97) after the bursting or lancing of the boil.

Hair, Falling out of the.—Falling off and premature greyness of the hair often follow illness or debility. An iron tonic sometimes tends to darken the hair. Any of the following are good hair strengtheners:—

1. Castor oil, lavender water, and tincture of cantharides in equal parts. Rub a little into roots every other day for eight or ten weeks.
2. A few drops of the best paraffin oil rubbed into roots twice a week for two or three months. (Beware of taking lights near paraffin oil, as it is very explosive.)
3. Tincture of cantharides..... $\frac{1}{2}$ ounce.
 Eau de Cologne 2 ounces.
 Oil of cloves, oil of thyme, of each 1 drachm.
 Mix, and rub a little into roots of hair every day.

Note.—If the skin should become at all sore, as in some cases it may do so from the action of the cantharides, leave off for a week.

Hay Fever.—This is a most distressing ailment to those who have the misfortune to suffer from it. It occurs only during the pleasantest time of the year, and runs its course for about six or eight weeks, from the beginning of June till about the middle of July, when the grass seeds are ripening, and it makes life a burden while it lasts. It occurs year after year in the same individuals at the same period, and is much worse in hot dry summers than in cold wet ones, naturally, because wet prevents the grass seeds from flying about. The *symptoms* are intolerable itching of the eyes, catarrh, sneezing, and asthma. The cause is a peculiar irritation of the mucous membrane by minute particles, or probably germs from the flowering grasses during the hay-making season. It is theoretically supposed that a residence at the sea coast or in a town will prevent hay fever, but the idea is an entire delusion. Immunity might perhaps be obtained if the sufferer could remain on the sea out of sight of land during the entire hay fever season; but this is very rarely practicable, and as the wind bears the pollen of the grass seed over town and sea-beach alike, there is no escape in those particular situations. Nevertheless, a town or a sea-beach is preferable to a field. Hay fever subjects should keep absolutely clear of fields during the period of their annual sufferings, *and should also keep as much out of sun and dust as possible.* This is exceedingly important. A drive in the sun on top of a 'bus in the heart of London will often bring on an attack in the month of June.

Dr. De Haviland Hall, of Westminster Hospital, gives the following practical and useful advice on the subject, by which sufferers would do well to profit:—"If the individual cannot escape from the country he should be instructed to

wear out of doors 'goggles'* with pale blue glasses, and, if he will submit to it, a blue gauze veil of double thickness over the face. He should take life as quietly as possible, and should especially avoid exertion in the sun. On the least suspicion of the complaint commencing he should bathe the conjunctivæ† with a solution of corrosive sublimate, 1 in 3000.‡ . . . Plugging the nostrils with tampons of cotton wool soaked in glycerine§ is very useful in some cases. . . . As regards the use of cocaine locally, the expectations which were formed of its efficacy in hay fever when the drug was first introduced have not been realised. Though the immediate effect of a weak solution of cocaine to the nasal mucous membrane is to produce an alleviation of the most distressing symptoms of the disease, the effect soon passes off, and the application has to be renewed. As a result of the dilatation of the blood-vessels, which is the secondary effect of cocaine, the mucous membrane increases in thickness, so that eventually cocaine aggravates the evil it was meant to cure. A 10 or 20 per cent. solution of menthol dissolved in almond or olive oil, and applied to the nasal mucous membrane, has yielded good results, and has none of the drawbacks of cocaine."

"The late Sir Andrew Clarke," continues Dr. Hall, "proposed the following plan, for which he claimed a fair measure of success—*i.e.*, about half of those whose cases he was able to follow were cured for the season, and four persons were cured 'for good':—One ounce of glycerine of carbolic acid, one drachm of hydrochlorate of quinine, and a two-thousandth part of perchloride of mercury are made into a solution by the aid of heat, and the interior of the nostrils is freely swabbed out with the mixture."

An ointment of vaseline, 1 ounce, and eucalyptus oil, 1 drachm, rubbed up the nostrils, will do good; also the inhalation of tincture of benzoin, 1 drachm in a pint of hot water.

* Smoked glass "pince nez" have been found most soothing to the eyes during this torture time, and are not as wounding to one's vanity as "goggles."

† *I.e.*, the eye-balls.

‡ Corrosive sublimate is the most powerful disinfectant known, and is very poisonous.

§ Glycerine is an antiseptic, hence its value applied in this way.

Antipyrin is also recommended for hay fever by the above authority. The writer has proved the value of this drug from personal experience in hay fever. *It should be borne in mind that large doses of antipyrin should only be taken by a doctor's orders;* but any one who knows from experience that he or she can safely take it, will find a dose of 15 grains occasionally (there should always be an interval of at least six hours between such doses, and not more than two should be taken in twenty-four hours) of great benefit during the hay fever season. The drug must not be taken for several days in succession, as its effect would be too lowering.

Tonic treatment before the usual period of suffering arrives is often found useful. Quinine or bark taken during May will tone up the system before the June hay-making arrives. Tobacco smoking in many cases gives more relief than anything else. A single cigarette often cuts short the attack for the time being, but this is of course only palliative treatment.

Smelling-bottle for Hay Fever and Catarrh.—Ammonia, iodine, and carbolic acid, made into a paste with wood charcoal and compound tincture of benzoin. The bottle (wide-mouthed with glass stopper, as used for salts, and filled up to the neck with the preparation) should be used at the very commencement of the symptoms. It can be made up by any chemist for tenpence, including the bottle. It is said that fine salt used as snuff does good. The compound menthol snuff may also be tried. If asthma is a symptom, treat as directed at page 296. The "Cigares Anti-asthmatique" (Joy's), which a chemist can procure, give wonderful relief in the asthma that accompanies hay fever. These three rules must be carefully adhered to—

1. Stay in doors in a shady room during heat of day.
2. Avoid sun, fields, dust, and night air when dew is falling.
3. Guard against chills which aggravate symptoms.

Headaches.—No one rule can be laid down for the cure of headaches; the causes from which they spring are many and various. Discover the cause, and, if possible, remove it. If the headache cannot be removed by ordinary domestic

treatment, such as is here suggested, a doctor should be consulted, as persistent headaches are sometimes the precursors of serious illness. The general causes from which headaches come, and the home treatment which generally relieves or cures, are—1. *Acidity* of the stomach often causes headache. A small teaspoonful of bicarbonate of soda in a wineglass of water will cure it. 2. *Anæmia* (see p. 293). 3. *Bilious derangement* (see Sick Headache). 4. *Brain disease*. Persistent headache often comes from this cause. A blister to the nape of the neck, or behind the ears, may alleviate suffering, but it goes without saying that medical treatment should be promptly procured. 5. Breathing bad air, as in ill-ventilated rooms or crowded places. The cure for this is obvious. 6. *Constipation*. Of all the ordinary causes that produce headache this is the most common. Probably fully three-quarters of all the headaches from which people suffer would be saved if the sufferers only took care that the bowels acted *every day*. All the Pills and Syrups and Mixtures so extensively advertised as able to cure every mortal ill, and by means of which large fortunes are made by the happy patentees, are, when analysed, found to be merely *purgatives*. The patentees act wisely on their knowledge of the general tendency of the majority of people to neglect the natural functions. People find themselves relieved by the patent medicines, of whose wonderful cures they read such glowing accounts, and never reflect that any “common or garden” aperient possesses the same virtue. The Carlsbad salts will be found a surprisingly good cure for headaches caused by constipation and by all stomach and bilious disorders. 7. *Congestion*—i.e., blood to the head. A foot-bath of very hot water and salt will generally cure this. An aperient is usually required also. 8. *Cold feet* (see p. 326). 9. *Debility*. Tonics and good nourishment and change of air are needed. 10. *Defect of eyesight*. Many people do not know that this is a frequent cause of headache. It can soon be remedied by a visit to an oculist or experienced optician, who will order suitable spectacles. 11. *Disturbance of the system*, as at certain critical periods of life. A physician should be consulted in such cases when the headache is distressing. 12. *Derangement of the liver*. A five-grain blue pill, followed by a dose

of the Carlsbad salts, will often quickly cure a headache caused by liver derangement. 13. *Excitement* (nervous headache), or over-fatigue. Rest in a quiet, dark room, and a good cup of tea will cure. 14. *Indigestion* (see p. 334). 15. *Kidney complaints*. If suspected, a doctor must be seen. 16. *Neuralgia* (see p. 342). 17. *Over-eating*. Merely a good purgative is needed; but when people who persistently eat too much suffer constantly from headache, they can't expect a cure unless they eat less. This particularly applies to elderly people, who often eat much more than they require or can digest. After middle life the digestive organs as well as the muscular system deteriorate in vigour. 18. *Overwork*. The treatment is obvious. 19. *Sun on the head*. 20. *Want of proper nourishment*. The treatment here also is obvious. 21. *Want of abstinence in the use of alcohol*. This is a fertile cause of headaches, because over-indulgence in spirituous drinks, or even in beer and stout or wine, tends to disorder the digestion and injure seriously the functions of the kidneys and liver, and headaches follow naturally in the train of such disorders. 22. Headaches are said sometimes to be caused by smelling flowers held very close to the nose. It is supposed that some minute insects are inhaled and cause the pain.

Headaches are almost always among the symptoms that usher in an attack of any of the infectious diseases.

The simple domestic remedies are the hot foot-bath of salt and water, and the application of a sponge or flannel wrung out of boiling water to the forehead or back of neck, or to both. This generally does more good than a cold application, and gives great relief in neuralgia. There should be two flannels in use, so that one may follow the other in quick succession. A small mustard plaster or mustard leaf behind the ear often cures quickly. Menthol stick rubbed upon the forehead briskly will in some cases cure. Bathing the forehead in vinegar or Eau de Cologne and water, or in toilet vinegar, and smelling strong salts, or aromatic vinegar, are well-known cures. The compound menthol snuff is also sometimes useful. Equal parts of spirit of camphor and liquor of ammonia dabbed will relieve headache with feeling of weight at top of head.

Antipyrin, antifebrin, or phenacetin, in 10 to 15 grain

doses, are the best drugs for curing headaches, if patients can take them without danger. *Headaches in children should never be neglected*, as they are sometimes a sign of brain mischief, for which the only chance of cure will be speedy medical treatment. Children's headaches sometimes come from want of proper spectacles, as mentioned above. Sun on the head is particularly dangerous to young children; it sometimes induces inflammation of the brain. In summer children should always wear high-crowned, broad-leaved straw-hats. A cabbage leaf in the crown of the hat is a great protection against sun in summer.

Heart-burn (a burning sensation in the throat and pain in pit of stomach) comes from indigestion. The following may be tried:—(1) 20 drops of aromatic spirits of ammonia in a wine-glass of water; (2) pepsin before meals, taken as directed on bottle; (3) half a teaspoonful of bicarbonate of soda, half a teaspoonful of powdered rhubarb, and a pinch of powdered ginger, mixed in a wine-glass of water.

Hoarseness.—A little glycerine from time to time, or glycerine lozenges, or chlorate of potash lozenges, with *silence*, are the best cures. A scrap of *borax*, the size of a small pea, slowly dissolved in the mouth will remove hoarseness for a considerable time. Those who have to speak or sing in public will find this useful. A gargle of common salt and water is also useful in hoarseness, it clears the voice.

Indigestion (Dyspepsia).—This is not an ailment that is at all so simple and easy to cure as many people imagine. Digestion is a complicated process, in which the whole twenty-eight feet of the alimentary tract, with its mechanical movements and ferment-secreting apparatus, is involved. Derangement of any part throws the whole out of gear. Ill-treatment of any part, as when food is bolted wholesale, without being prepared by chewing, and is thrown in an unprepared mass into the stomach, will naturally injure the whole process of digestion. Much indigestion is brought on by such ill-treatment. Hurrying over meals, swallowing food that is only half chewed, running for trains, or rushing

off to work directly after meals,* are causes that lie at the root of more than half the indigestion going. *The early dinner* is not a hygienic institution, nor one calculated to favour eupepsia. Unless people can rest for an hour after the midday meal *they should not eat a heavy dinner at one or two o'clock, unless they have very good digestions.* It is better for them to eat only light digestible things early, and reserve their meat meal till later in the day. *Chewing thoroughly* is a very important aid to digestion, *because food cannot be properly digested unless it is well mixed up with the various ferments which are poured out along the alimentary canal.* The first of these—the ptyalin—is found in the saliva, it digests starchy food; then there is the important ferment, the gastric juice in the stomach, which digests meat, the bile secreted by the liver, the pancreatic fluid from the pancreas, and various other ferments which have special functions, and are excreted in the intestines. Unless the food is masticated so that it is broken up into fine morsels, it cannot be properly incorporated with these ferments. This is the *raison d'être* for the necessity for chewing, and much indigestion would be prevented if people realised the necessity.† Artificial teeth, if the natural ones are defective, are an important aid to digestion, and their timely use will save money for medicine and suffering, from indigestion later on.

Neglect of healthy living, breathing bad air, living in ill-ventilated rooms, and taking little or no walking exercise, all lower the general health, and therefore injure the digestion. There is another cause of indigestion pointed out by Dr. Lauder Brunton. He says: "There can be no doubt that some of the most obstinate forms of indigestion arise from the body not being properly protected." I would particularly commend this statement, by so eminent an authority, to those young ladies who wear thin stockings and shoes and too little underclothing in winter, under the mistaken impression that the grace of their appearance is

* The foundations of indigestion in after-life are often laid by letting children bolt their breakfast and rush to school; an earlier breakfast would prevent this.

† Sir John Lubbock stated some time ago that Mr. Gladstone greatly owed his good health and strength at an advanced age to the fact that he gave twenty-three bites to every morsel of meat he ate.

improved thereby. There is no question that indigestion has too often a disastrous effect upon the appearance, and produces more red noses and pasty complexions than anything else.

Indigestion is also caused by *catarrhal inflammation* of the stomach, which causes a great quantity of unhealthy mucus to be secreted; this, of course, interferes with the healthy working of the stomach glands, as while they are in this state they cannot secrete healthy gastric juice, and until this condition of things is remedied it is worse than useless to put meat (which is digested by gastric juice) into the disordered stomach; it only keeps up the irritation. Washing out of the stomach, by means of a kind of stomach-pump, is now frequently practised as a cure for indigestion caused by derangement of this kind. It must, of course, be done by a medical man. The necessity for it is mentioned here, so that sufferers from severe indigestion may, instead of trying to doctor themselves, and probably only increasing their sufferings by so doing, consult a physician without loss of time.

Diet has, of course, a *very* important place in the treatment of severe indisposition. Ordinary food is worse than useless in such cases. Regarding the subject of "predigested and peptonised foods," in the section on "Invalid Feeding," Chapter VI., the digestion of food, predigested foods, and feeding for dyspeptics, is thoroughly considered, and recipes for the preparation of food digested with malt infusion, peptonised gruel, milk, etc., are given.

Salt with food helps to promote the secretion of the digestive ferments, and is therefore beneficial as a digestive. Mustard and cayenne are also, in moderation, useful stimulants to the digestion. Warm food is more digestible than cold food. Re-heated and over-cooked or under-cooked food is more difficult of digestion than that which is freshly and only just sufficiently cooked. Fried food is more indigestible than that which is boiled, roasted, steamed, or grilled. Liquid food is more quickly absorbed and digested than solid. A tumbler of very hot water, with or directly after meals, is often found of very great service to a weak digestion. The Pepsin Porci, prepared from the stomach of the pig, according to Dr. Beale's formula, is

said to be five times stronger than that obtained from the calf. It is a valuable help to digestion for dyspeptics, as it is a powerful ferment for the digestion of meat. Any chemist can supply it.

This table of the time taken in digesting different kinds of food will show how much more suitable some kinds are for dyspeptics than others—

	H.	M.
Tripe, sweetbreads, lamb's trotters, white fish	1	0
Eggs, raw, well whisked	1	30
Eggs, hard boiled or fried	3	30
Rice, boiled	1	0
Chicken, boiled	1	30
Chicken, fricasseed	2	45
Lamb, boiled	2	30
Turkey, roast or boiled	2	30
Beef, mutton, roast or boiled	3	30
Beef, fried	4	0
Beef, salt	4	15
Pork, roast	5	15

Salmon, herrings, and eels are indigestible from their oiliness. Game is very digestible, on account of its short grain and want of fat. Fat and oil are indigestible. Vegetables are very indigestible unless thoroughly cooked.

Strong tea is extremely bad for dyspeptics; the tannin that is in all tea is an astringent, and retards digestion. A good pinch of bicarbonate of soda mixed with the dry tea helps to counteract its astringency. Glycerine should be used by dyspeptics for sweetening instead of sugar. Pure milk is difficult of digestion; by mixing equal parts of barley water and milk a very digestible drink may be made. A little lime-water added makes milk more digestible. The following prescriptions will be found useful for indigestion which causes pain after eating, and flatulence:—

Bicarbonate of soda	1½ drachms.
Powdered rhubarb	60 grains.
Strong tincture of ginger	40 drops.
Sal volatile	3 drachms.
Tincture of gentian	3 „

Peppermint water to make 8 ounces.

Dose—2 tablespoonfuls every 4 hours shortly after meals.

For indigestion which causes a rumbling of air, or gas rather, in the intestines—this ailment frequently causes

much distress, and is not recognised as being caused by indigestion—15 or 20 drops of dilute hydrochloric acid in two tablespoonfuls of water half-an-hour before food twice a day. Take, if it is found to agree, for a week or two, then discontinue for a time. Bismuth lozenges, or a small teaspoonful of bicarbonate of soda in a wineglass of water, are excellent for alleviating acid dyspepsia and heartburn with flatulence. Dr. Lauder Brunton says of bicarbonate of soda: "When swallowed it stimulates the secretion of gastric juice, and is a most efficient remedy when given from ten minutes to half-an-hour before meals in cases of atonic* dyspepsia," where the patient complains of weight or pain at the pit of the stomach, pain between the scapulæ (shoulder blades), and much flatulence.

A pleasant way of taking bicarbonate of soda is in *effervescing lozenges*, which can be procured from a chemist, either plain or combined with bismuth or ginger, or with both. Sir William Roberts recommends the sucking of simple unsweetened gum lozenges, or even bits of gum arabic, for acid dyspepsia. He says: "The process of sucking induces a plentiful flow of alkaline saliva, which is soothing to the angry mucous membrane of the stomach. Anything that increased the flow of saliva was found to abate the pangs of acid dyspepsia. By the use of lozenges, and especially of gum lozenges, I have obtained in the treatment of acid dyspepsia distinctly more curative results than by the use of alkalies." The use of alkalies (*i.e.*, soda or potash) must not be continued for more than two or three weeks at a time. Glycerine, which is an antiseptic, is very good for indigestion. For flatulency and acidity a couple of teaspoonfuls in tea, coffee, etc., may be taken several times a day (Ringer).

A pad of linen, as a handkerchief or folded diaper, wrung out of cold water, laid on the pit of the stomach, and covered with oil silk or waterproof stuff, has often cured or relieved dyspepsia. It should soon grow warm, when it must be replaced by a fresh piece. If it does not grow warm, it shows that its use should be discontinued. There should be several folds in use, as the one that comes off should soak for some time before reapplying.

* Atonic—*i.e.*, wanting tone.

Influenza.—*Symptoms.*—Chills, weariness, pains in limbs, headache, nausea, and perhaps vomiting, depression of spirits, fever with very high temperature, in some cases catarrh. Severity of symptoms vary in different cases, and sometimes the attack comes on suddenly. *Treatment* should be as for feverish cold (p. 311), but the patient, in bad cases, should be treated by a doctor, and should not get up till he gives leave, because there are two serious dangers connected with influenza:—1. Inflammation of the lungs (pneumonia), which is extremely likely to supervene if the patient gets a fresh chill or goes out too soon. 2. Fatty degeneration of the heart may come on during the illness, and exertion too soon may lead to sudden death, or to the heart remaining permanently weak. Proper rest till the heart recovers its strength may prevent this. Stimulants are generally needed, and plenty of nourishing food and change of air to a bracing place when convalescence is established; but the patient should not leave home in very cold or bad weather, should not take a long and fatiguing journey, and should go to a comfortable house where “home comforts” can be had—otherwise he is better at home. Woollen underclothing after influenza is very important. There is often extreme debility after influenza. The following is a good tonic:—

Sulphate of quinine.....	12 grains.
Hydrobromic acid	2 drachms.
Syrup of orange peel	$\frac{1}{2}$ ounce.
Water to make 8 ounces.	

Dose.—Two tablespoonfuls three times a day half-an-hour after meals; or for people with whom quinine sulphate disagrees—

Carbonate of ammonia	40 grains.
Tincture of red cinchona bark	$\frac{1}{2}$ ounce.
Spirits of chloroform	3 drachms.
Syrup of orange peel	2 ,,
Water to make 8 ounces.	

Dose.—An eighth part three times a day. This is a capital tonic.

Liver Disorders.—The usual symptoms are—dull pain in right side, languor, depression of spirits, irritability, loss

of appetite, chilliness, spots before the eyes, sore throat, whites of eyes a yellow shade, yellow and coated tongue, diarrhoea or constipation. A blue pill—3 to 5 grains—followed by a dose of the Carlsbad salts, with attention to diet, will usually cure such symptoms. People who suffer from disordered liver and biliousness should on no account take beer or stout; if they require a stimulant, it should be a little good Scotch whisky with soda or potash water. They should avoid wine, coffee, pastry, rich dishes, and take but little sugar or sweets. Cold baths and chills, over-fatigue, late hours, irritation and annoyance, and exposure to great heat or cold, are all very bad for those subject to any liver disorder. They should always wear flannel or woollen underclothing. This prescription will be found useful for warding off or preventing the recurrence of liver attacks—

Sulphate of quinine.....	8 grains.
Dilute hydrochloric acid	2 drachms.
Taraxacum juice (<i>i.e.</i> , dandelion juice). ..	1 ounce.
Concentrated infusion of gentian	1 „
Syrup of orange peel	$\frac{1}{2}$ „
Water to make 8 ounces.	

Dose.—Two tablespoonfuls in half a wineglass of water three times a day half-an-hour after meals.

Those who suffer from inactive liver should be careful about over-eating, which throws a great strain upon this organ and does it serious mischief. Exercise is absolutely essential; it agitates the liver, and stimulates it to perform its function of secreting bile. A slow saunter is of little use for this purpose. Tennis, cycling, horse exercise, etc., have an infinitely better effect. A hot bath occasionally is a good liver stimulant. A large flannel wrung out of boiling water and sprinkled with a little turpentine is an excellent application to the region over the liver in cases of pain.

Lumbago, or rheumatism in the *lumbar region*—*i.e.*, the region of the loins—generally sets in suddenly, and causes great suffering. Apply any of these: A bag of hot salt or sand; a hot water bag; a poultice made by heating vinegar and bran *very* hot, and applying in a flannel bag (this retains heat for a long time and is excellent); a turpentine stupe;

rubbing with *chloroform liniment* (a chemist will prepare this); the application for several hours of a succession of very hot linseed poultices. In all cases the loins should be firmly swathed with a broad bandage of heated flannel fastened on with safety-pins. A rug-strap or long towel fastened to the end of the bed, and lying within reach, will be found of great help in turning or sitting up in bed, which is a painful process in this complaint. The patient should lie in blankets, and if perspiration be induced by drinking hot barley water with sweet spirits of nitre—a dessert-spoonful of the latter to a pint—it will do great good. A brisk purge with Carlsbad salts is very essential. If the pain be very severe, an injection of morphia into the skin will at once relieve it; this, of course, must be done by a doctor. (See also Rheumatism, p. 346.)

Mumps is an inflammation of one or both of the parotid glands—*i.e.*, the glands of the throat under the ear in which the saliva is principally secreted—accompanied with painful swelling of the glands and fever. It lasts about a week or ten days, and is generally a mild ailment; but deafness or abscess in the gland, or—but this is rare—paralysis, may result from it. There may be headache, vomiting, and diarrhoea, with high fever in bad cases. It is most apt to occur from the fifth to the seventh year, and about the period of puberty. It is most common in spring, and is extremely infectious. Incubation, fourteen to twenty-two days; duration of infectivity, three weeks or more.

Treatment.—Keep out of draughts, not necessarily in bed. Swathe swollen parts in warmed layers of cotton wool, covered with oiled silk or gutta-percha tissue and flannel; if very painful, apply hot linseed poultices. Give a dose of fluid magnesia at beginning of attack, and guard against constipation. Keep head and throat warmly wrapped up, and give only light liquid nourishment till swelling subsides. Don't be afraid of abstinence, a little starving will do good. Barley water or lemonade may be freely taken. In some cases the swelling shifts suddenly to a lower part of the body; if very painful, poultice the part. If there is a discharge from the ears, or deafness, consult a doctor at once. Mumps is almost altogether an ailment of childhood.

Neuralgia.—Nerve pain (from the Greek *neuron*, a nerve, and *algos*, pain), generally violent and occurring at intervals in paroxysms. Neuralgia is generally the result of the system being in a lowered condition, and the blood deficient or in a poor state; any cold or exposure will then attack the weakest part, as a decayed tooth, etc.

Treatment.—Strengthening the system by exercise in the open air, cold or tepid sponge baths, living in well-ventilated rooms, and a change to sea or mountain air, if possible, should be the basis of all treatment of neuralgia. Good nourishment is absolutely essential; it should include *fat*, which is of great importance in the treatment of this ailment, and need not necessarily take the form of meat fat: milk, cream, eggs, and butter are the most digestible forms in which fat can be taken. Cod-liver oil is valuable, and plenty of sleep and nerve-rest (absence of worry) is needed. When the paroxysms are severe, flannels wrung till dry out of boiling water and applied to the aching part give more ease than anything else.

Quinine is frequently known to permanently cure the attacks.

Dose.—Two grains two or three times a day in a little milk shortly after meals.

Tincture of red bark is also a cheap and valuable tonic for the cure of neuralgia. Buy a few pennyworth and take 15 or 20 drops in water or syrup after meals. The prescriptions for tonics for influenza are good for neuralgia also. The following prescription is very good for all nerve pains:—

Bromide of potassium	2 drachms.
Sulphate of quinine	16 grains.
Dilute hydrobromic acid.....	2 drachms.
Syrup of orange peel	$\frac{1}{2}$ ounce.
Water to make 8 ounces.	

Dose.—Two tablespoonfuls three or four times a day half-an-hour after food.

Damping the face or affected part with camphor water (one ounce camphor dissolved in breakfast cup of water; bottle and cork) renders it less liable to cold. Rubbing with a stick of menthol relieves slight cases.

Nettle-rash.—An eruption on the skin resembling that caused by stings of nettles. Generally caused by some food that disagrees, shell fish, etc., in which case an emetic of a spoonful of ipecacuanha does good. Over-clothing and want of cleanliness, or teething, also cause the eruption.

Treatment.—Dress lightly, bathe with tepid water frequently, but use no soap. Sponge with an alkaline lotion—20 grains carbonate of soda, 1 ounce of glycerine, 6 ounces rose water. Give an adult a dose of Carlsbad salts, one teaspoonful in large tumbler of warm water; give a child a dose of magnesia.

Obesity.—More than a quarter of a century ago Mr. Banting reduced himself from over fourteen stone to ten stone twelve lbs. by abstaining from bread and other farinaceous foods, butter, milk, sugar, beer, and potatoes, and did it without injury to his health.* The same may be done to-day by the same means. Fat is, however, not now considered necessary to avoid; the principal thing to eliminate from the diet is the *starchy* element. Saccharin or glycerine may be used as sweeteners; they are not fat-making like sugar. The Carlsbad salts are of great service in cases of obesity, taken twice a week regularly.

Ophthalmia (Inflammation of the Eyes).—There are two kinds, one from cold, easily cured by a lotion made of alum, 3 grains; zinc, 1 grain; water or rose water, 1 ounce. It should be frequently dropped into the eye from a camel-hair brush, keeping eyes covered in interval with wet lint. The other is an extremely contagious disease which demands the most careful and continuous treatment, as if it is neglected for a few hours the sight will inevitably be lost, as the discharge is corrosive and will destroy the eye-ball.

Symptoms.—The lids swell so that they can hardly be opened, and a thick discharge of a more or less coloured matter oozes from between them. The treatment consists in keeping this discharge *continually* wiped away as it

* See section on "Invalid Feeding."

forms, and this must be done *night and day*. *A few hours' neglect during sleep will probably cause the eye to be lost*. The alum and zinc solution may be used until medical aid comes, which should be quickly, or, what is better, a solution of 1 in 5000 of perchloride of mercury (a poison), or a solution of borax, 1 ounce to a pint and a half of water. The doctor's instructions must be most strictly carried out, no matter at what cost of trouble; for remember, the priceless boon of SIGHT is at stake. Pledgets of cotton wool, *not sponges*, should be used to wipe the gathering matter from between the lids, and should be burnt directly after use, as the discharge will convey the infection; in the intervals of wiping it away the eyes must be covered with lint soaked in the lotion, which is all the better if it can be iced. The attendants must beware of the infection, or they may contract the disease.

For ordinary inflammation of the eyes a homely and useful remedy is *chopped parsley*, well washed and put in two muslin bags large enough to cover each eye. They should lie on the eyes till warm, then be resoaked in water.

Palpitation is more often caused by indigestion and flatulence than by heart disease. Attention to the digestion and taking fresh air and exercise will generally cure it. It often occurs at critical periods of life. Only examination by a physician can decide if it be due to organic disease.

Piles (Latin *pila*, a ball).—Tumours formed by dilatation of the veins round entrance to bowel passage, caused by getting the feet wet, sitting on cold or damp seats, debility, over-use of purgatives, severe exercise on horseback, and over-use of stimulants. Sometimes they are just inside the intestinal passage, but generally protrude, when they may be pushed back with the finger, oiled; in some cases they bleed. Constipation will greatly increase suffering. A dessert-spoonful of salad oil taken first thing every morning gives wonderful relief in this distressing ailment.

A piece of rhubarb root, about ten grains weight, slowly dissolved in the mouth nightly, or occasionally if

the constipation be not very obstinate, is, says Dr. Ringer, "of surprising efficacy in piles when laxatives are needed." Ten drops of *Cascara sagrada*, or a dose of Gregory's or liquorice powder, or sulphur electuary, or a "black draught," are all useful for occasional use to remove constipation, but for regular use an injection of half a pint of cold water every morning will be found far better.*

Local applications that will do good are—1. Sponging with cold water frequently, gentle drying, and then anointing with *nutgall ointment*; this withers the piles. 2. Powdering with fine starch, or fuller's earth, or boracic acid powder. 3. Sitting on a vessel of hot water or hot fomentations give relief in pain. For bleeding piles bathe with a decoction of oak bark or strong cold tea, or apply a pad of linen rag soaked in a lotion of tincture of *hamamelis virginica* (two teaspoonfuls in half a pint of water), covering it with oiled silk. If the piles are internal and bleed, inject this lotion with a syringe two or three times a day. Plethoric people are often benefited by such bleeding, and internal congestion is warded off by it. If piles are very troublesome a surgeon should be consulted, as a simple operation will remove them, and this frequently is the only means of cure.

Spiced, indigestible food, cayenne pepper, condiments, coffee, and wine or *alcohol in all forms*, will make this ailment much worse. Free water drinking, by keeping the intestinal contents liquid, will be found to give great relief. Everything that will strengthen the system will do good. In bad attacks rest in bed is necessary, otherwise exercise in open air is important.

Pimples.—(See Acne. Also Indigestion and Acidity, as pimples frequently come from disordered digestion.)

Quinsy.—Inflammation of the tonsils accompanied with fever.

Symptoms begin with a chill, shivering, sore and swollen throat, which occasions great difficulty in swallowing, pains in the bones, and general feeling of illness.

* Castor oil should not be used as an aperient in this ailment; it is too drastic.

Treatment.—Apply hot linseed poultices or flannel bags of hot salt to the throat, and rub it with camphor liniment. Frequent gargling with solution of chlorate of potash (1 oz. to pint and a half boiling water) is essential, and the patient should frequently inhale steam, either from a patent inhaler or from a jug with a towel twisted round the neck, leaving an aperture to which to apply the mouth. Sometimes an abscess in the throat forms; the safest way to open it is by pushing the finger nail into it; the nearness of the carotid artery makes a lancet dangerous. The throat must be well washed out with the chlorate of potash solution when the abscess bursts. The bowels must be kept open with magnesia or other mild laxative, and the strength supported with milk, eggs, barley water, strong broths, etc., as throat complaints are very weakening.

Bad drainage frequently causes quinsy.

Relaxed Throat.—Paint back of throat with glycerine of tannin, made by rubbing together and slightly warming till thoroughly mixed 1 oz. of tannic acid and 4 oz. of glycerine. Paint with a camel-hair brush several times a day, but the painting should not be done very near meal times. This rarely fails to cure. Gargling with salt and water is useful.

Rheumatism is now supposed to come from a germ, or microbe, but whether this is really so or not, it is important to know that this ailment is largely caused by an *acid state of the blood*, and that *diet* has great effect in curing it.

I have known people to be cured of rheumatism by simply leaving off *beer*. Sweets and acids of all sorts are very bad for rheumatic sufferers; as the disease comes from acidity, it should be treated by *alkalies*. There is nothing better than an occasional dose of the Carlsbad salts, which clears the lactic and uric acids, that cause rheumatism and gout, out of the system. One dose will often give great relief. In severe rheumatic attacks meat should not be taken at all. Damp, of course, has a large share in the causation of rheumatism, and so has bad drainage. Rheumatism is very liable to follow as a complication of other diseases, as after scarlatina, and it frequently comes from

taking cold after a patient has had a course of mercury for the cure of some other disease.

Local applications are important means of relieving the pain. The best are—1. Rubbing with chloroform liniment. 2. Rubbing with methylated spirit or paraffin oil, or with a solution of whisky and salt. 3. Rubbing with belladonna liniment. 4. A bag of hot salt applied gives relief in muscular rheumatism. In acute rheumatism (rheumatic fever) the joints should be swathed in layers of warm cotton wool covered with flannel, and, these being removed, should be bathed occasionally in hot water and carbonate of soda (about 1 ounce to a pint).

All rheumatic people should wear flannel next the skin, flannel night-dresses, and in bad cases should sleep in blankets. The difference made by wearing wool instead of cotton or linen next the skin is surprising. Rheumatism, even when very slight, in childhood should be treated at once, as it may lead to heart disease; there is always liability to this after rheumatic fever.

Ringworm of the scalp is a disease of the skin caused by a microscopic vegetable parasite, chiefly occurring in childhood; is very contagious and difficult to cure in some cases, especially when treatment is delayed.

Treatment.—Dr. Ringer gives the following method, employed by Dr. Faulis, who says it cures the worst cases in a week:—"Cut off the hair, rub the patch with turpentine till it smarts, then wash it well with carbolic soap (10 per cent.). The smarting soon ceases. After well drying the skin, paint on it two or three coats of tincture of iodine. Lastly, anoint the hair with carbolic oil (1 in 20)." This is severe treatment, but effectual. It must be remembered that the application is to be only on the *affected patches*. A useful and simple country remedy is to dissolve half a pound of washing soda in just enough water to dissolve it, cut the hair close, and dab the soda solution on the patch several times a day with bits of cotton wool (burnt after use). It must not trickle on to the skin. This is said to be very effectual. Painting the patches with iodine is another remedy, and strong *brine* is now used, it is said, with advantage. A cap should be worn all over the head

during treatment, burnt after, and the patient must not use other children's brushes, etc. The disease is often spread by affected children trying on hats in shops or being taken to hairdressers. It is always well to take children's own combs and brushes when they go to hairdressers or photographers. Dry hair is the most easily infected. When a case is in a house the rest of the family should keep their hair oiled. Change of air to the sea-side, cod-liver oil and iron tonics, are generally needed to effect complete cure, as debility generally exists.

Sciatica, neuralgia of sciatic nerve in hip, mostly occurs in middle age.

Treatment.—Rub with chloroform liniment, or mustard oil, or whisky and salt. Apply bag of hot salt, or india-rubber hot-water bottle, or linseed and mustard poultice, or a mustard leaf. In severe cases electricity must be resorted to for cure. Injection of morphia relieves severe pain. "In chronic cases of sciatica, a course of Turkish baths, with a strong, cold douche to the back of the thigh, will sometimes effect a cure" (F. Roberts, M.D.). Brine baths, as at Droitwich, are very valuable. When patients cannot go to them, such baths can be made at home by putting 20 to 30 lbs. of salt into about 30 gallons of water at 100° F. These do not depress like plain hot water baths, but exhilarate.

Sea-Sickness.—No specific for this distressing ailment seems to have been yet discovered, but the following may be tried:—

Chloroform, 5 drops in a wineglass of water, or on sugar. This should be taken before sickness begins, and may be repeated after a few hours if necessary.

A dose of chloral (any chemist can prepare a suitable dose if told why it is required) may be taken on going on board at night, and will probably enable the traveller to sleep till morning without sickness. Three drops of creosote in half a small tumbler of water is recommended. In severe cases a hypodermic injection of morphia is necessary to relieve suffering. In ordinary cases, lying quietly *on the*

back, with the head low, will stave off sickness. The application of a mustard plaster or mustard leaf (which is very convenient for travellers) to the pit of the stomach greatly relieves the distressing nausea. The same application, or ice, to the spine or nape of the neck is very useful.

Five to 15 grains of antipyrin taken at the beginning of voyage, before any symptoms commence, in some cases prevents sickness altogether. Antipyrin is a nerve sedative.

It is better to begin a voyage with a good meal than on an empty stomach, as distressing retching and straining results in the latter case. Ham or corned-beef sandwiches, made with dry bread and plenty of mustard, will be found the best food for preventing sickness. It is important to remember that sea-sick patients on a long voyage *must not* be allowed to go on starving, as they often wish to do, as the most deplorable and even dangerous state of exhaustion may arise: there is not, of course, any use in giving solid food in bad cases, as it cannot be digested, and only increases suffering, but liquid nourishment is quickly absorbed *if given in small quantities at a time*. This is the great secret in giving nourishment to people suffering from any kind of nausea or vomiting: give spoonful doses of *hot* or *cold* (iced is best) liquid, such as beef-tea and milk mixed, or dry champagne, or weak brandy and soda water—(brandy and water is looked on as a specific for every ill by some people, but it often makes sea-sickness very much worse)—or soda water and milk, or chicken broth. Even teaspoonful doses of any or all of these, given every quarter of an hour or oftener, will keep the strength up until the patient is able to take more. Well boiled arrowroot is the best thing to commence with when the sickness is over, as it is bland and soothing to the stomach.

Sick Headache.—If this follows, as it often does, on eating food that disagrees, the very best treatment is to clear out the stomach by mixing a heaped teaspoonful of mustard in a soda water tumbler of warm water, and swallowing it at a draught, followed by warm water till free vomiting ensues. This gets rid of irritating matter and relieves the head. A small teaspoonful of bicarbonate of soda in a glass of water taken in sips will generally cure sick headache caused by

acidity. Soda water is the only thing that should be taken in the way of refreshment, and it will be found very beneficial in sick headache, *not* on account of the soda, of which it usually contains none at all, but because the carbonic acid gas which causes the effervescence is a sedative to the stomach.

Washing out the stomach with warm water, and starvation for twelve hours, is the best cure for sick headaches in general. Many people are greatly afraid of a day's starving, and pester the unfortunate patient with offers of beef-tea, brandy and water, and such-like decoctions, which would only make him a great deal worse if he swallowed them. While the attack lasts food is of no earthly use, but only aggravates the suffering; and experience often proves that people can get through a day's work with a sick headache if they simply take no food of any kind.*

It is said that the juice of a lemon swallowed without sugar or water on the first symptoms of sick headache will "nip it in the bud," but it seems an unpleasant remedy. A dose of the artificial Carlsbad salts taken first thing in the morning, if symptoms threaten a coming headache, will often prevent it, and in any case can do no harm.

Flannels, or a sponge wrung out of very hot water and applied to the head, give great relief. A mustard leaf behind the ears or to nape of neck or spine, a foot-bath of mustard or salt and hot water (100° F.), or an entire hot bath, are all very useful for the relief of sick headache. A dose of 10 grains of *antifebrin* or *antipyrin*, if there is not vomiting present, will in some cases effect a speedy cure.

Shingles.—A painful skin eruption which spreads round the body (from the Latin *cingulum*, a girdle). It usually lasts about ten days. Is principally due to some disturbance of the nervous system. A soothing lotion of lime water and olive oil should be applied on lint, or the part may be painted with flexible collodion (see in recipe under "Corns") or dusted with boracic acid powder; it should be kept covered with cotton wool. A mild dose of the Carlsbad salts every two or three days should be given.

* There is a popular feeling that twenty-four hours' starvation will kill, but it will much more often cure.

A medicine that soothes the nerves will be useful. The following is a good prescription for this—

Bromide of potassium.....	2 drachms.
Tincture of valerian.....	2 „
Syrup of orange peel.....	$\frac{1}{2}$ ounce.
Sal volatile; water to make 8 oz.....	2 drachms.
Two tablespoonfuls every four hours.	

Sleeplessness.—Want of proper ventilation in the bedroom often causes sleeplessness. The bedroom chimney should always be open, and not have the register tied up, as is so often seen. A hot drink will often procure sleep by drawing an overplus of blood from the brain; or a hot water bag to the stomach may be tried. Exercise in the open air before bedtime should be tried, and *early rising* practised. Sometimes people lie in bed for ten or twelve hours, and then complain that they can't sleep. The reading of a pleasant book before bedtime often has a sedative effect. A *hop pillow* sometimes has a surprising effect in inducing sleep, and has none of the evil effects of drugs taken for the purpose. A pound of hops will make a small pillow, and can be purchased at a chemist's for rs. 6d. Persistent sleeplessness may often be cured by driving for a number of hours in the open air. These two latter remedies have proved most valuable in sleeplessness after illness. Sleeping draughts should never be taken except according to medical advice; if they are indulged in for a considerable time they destroy the nerves, and often bring on a worse state than they were meant to cure.

Sunburn.—Pare and cut up a freshly-gathered cucumber; squeeze out the juice by wringing in strong muslin or in a lemon-squeezer. Mix this with the same quantity of glycerine and rose water mixed together in equal parts. This is cooling and healing. The face may be effectually preserved from sunburning under severe exposure, as on a sea voyage or mountain excursion, by greasing the skin with vaseline and powdering fuller's earth over it. This being a creamy colour, has not the ghastly effect of white powder.

For *irritable eruption* on scalp or face, a good lotion is—

Toilet vinegar.....	6 ounces.
Glycerine.....	2 „
Carbolic acid.....	half a small teaspoonful.

Sore Throat.—Apply a flannel bag of hot salt, or a woollen stocking filled with bran and vinegar made as hot as possible; or wring a fold of lint or linen out of cold water, wrap it round the throat, covering closely with oiled silk or waterproof. If it soon grows warm it will act like a poultice, and should be then replaced by another; but if it remains cold, its use must be discontinued, and a hot application put in its place. Gargling is very useful for sore throat. It should be done frequently, using either salt and water, vinegar and water, or chlorate of potash and water (one tablespoonful dissolved in a pint of hot water). Sore throat is often caused by bad drainage. When many members of a household suffer from it, there is almost sure to be something wrong with the drains. It should be borne in mind that sore throat is one of the first symptoms of scarlatina and diphtheria. Sometimes the latter disease is very mild, and the patient not particularly ill, so that the true nature of the disease is not suspected; nevertheless the infection can be given as much as from a bad case; therefore a person with a sore throat should not kiss any one, and children suffering from it should be kept apart from others.

Stiff Neck.—Rub well with hartshorn and oil, or mustard oil, or camphorated oil, or chloroform liniment, and wrap up in hot flannel or cotton wool heated and covered with flannel. This will speedily cure.

Superfluous Hair.—This can scarcely be called an “ailment,” but as the growth of hair on unsuitable places often causes a good deal of annoyance, and sometimes calls for surgical treatment, it may not be out of place to give a few hints as to the best method of dealing with it. There are four means for the removal of superfluous hair:—
1. Shaving or cutting. 2. Epilation, or plucking out.
3. By the use of depilatories, or chemicals which destroy the hair. 4. Electrolysis—*i.e.*, the destruction of the bottom of hair follicles by means of the galvanic current.

1. The first method, shaving or cutting, is objected to by many people on the ground that the hair grows more strongly after it than it did before. Mr. Balmanno Squire, surgeon to the British Hospital for Diseases of the Skin,

says that this idea is "perfectly groundless," and that no amount of shaving will cause hair to grow really longer or thicker afterwards. Ladies, of course, feel a natural repugnance to the use of the razor, but there is no doubt that hair can be removed more "neatly and completely" by its means than by any other, except electrolysis, which, however, is an almost impossible plan to resort to for the removal of a thick growth of hair. People object, also, to shaving, thinking that the hair under the skin leaves a dark appearance; but this it only does in the case of men with strong black hair. The authority just mentioned says, "when the hair on the face of a woman has been recently shaved off it never leaves any such trace."

2. The second method, of plucking out with tweezers, is the best means for removing a few scattered hairs, such as many people find appearing on the chin or upper lip; it does not prevent the hair from appearing again, as in a few days it grows as strong as ever, but when it is only the question of a few hairs, this is of no consequence, as they need not be left to grow long, the tip of the finger will feel the hair when it is just over the skin, and proper tweezers can then grasp it and pluck it out. It is necessary to buy good tweezers, costing about a shilling. Little cheap ones, that can be bought for sixpence, are useless, as they are not finished finely enough to take a proper grip of the hair. This method is so simple that one often wonders those people do not practise it who have that very disfiguring form of superfluous hair—*i.e.*, a few long hairs growing from a mole on the face. Good tweezers and the expenditure of two minutes' time twice a week would entirely remove them.

3. The third method.—"One of the best depilatories," Mr. Squire says, "is *sulphuretted lime*, not that of the British Pharmacopœia, but *sulph-hydrate of calcium*. This should be procured from a chemist. (It is of a dark blue-green colour, a nauseous odour, but is a very effective depilatory; it can be scented.) It may be spread on paper and laid on the skin, or spread over the skin with a paper-knife or the finger tip. A fairly thick layer of the paste should be spread on and left for two or three minutes, according to the coarseness of the hairs, and then washed

off with water. The hairs usually wash off with the paste; if not, they can be readily scraped off with the edge of a blunt knife." He also mentions *sulphide of barium* as "a very excellent depilatory." This can be made as follows:—

Sulphide of barium, in fine powder	90 grains.
Oxide of zinc,	360 "
Carmine (only for colouring) ..	1 "
Mix thoroughly.	

When required, sufficient must be mixed with water to form a thin paste, and used as directed above. Cold cream or zinc ointment may be applied to the skin if needed afterwards.

4. The fourth method, *electrolysis*, has come greatly into vogue for removing superfluous hairs, and the advertisement columns of ladies' fashion papers and others abound with advertisements from quacks who profess to practise it and to relieve clients of their undesired hair permanently by its means. It is, however, very important to know the following facts about this method for the removal of hair. (1.) That it should be performed only by a properly *qualified and experienced person*, because the skin may be permanently disfigured by scars if the operation be badly done. "It is quite possible," says Mr. Squire, "by a careless use of the electrolytic needle, to leave marks almost as distinct as small chicken-pox marks." This is easily understood when we remember that the process consists in plunging a needle carrying an electric current into the bottom of *each separate hair follicle*; that each hair has to be *separately operated upon*; and that each requires at least from quarter to half a *minute* for its destruction. (2.) That the process, if there are a large number of hairs to be removed, is likely to be a very tedious and expensive business, causing certainly more or less pain. Not more than from 25 to 50 follicles can be destroyed in from half to three-quarters of an hour. This usually constitutes a "sitting." The "sittings," if a moustache has to be removed, will have to be repeated every day for a week at least, then an interval must supervene for rest; then, when all the long hairs are removed, an interval of a few weeks must be allowed to show if any follicles have not been actually destroyed. We may sum up in Mr. Balmanno Squire's words: "The proportion of

the hairs operated on that reappear is, even when the operator is expert, admittedly very considerable. It has been estimated that, on an average, from 30 to 50 per cent. of the little operations thus prove themselves to be failures. Consequently a further sitting, or series of sittings, is requisite in order to deal with the failures, and so on until none of the hairs that have been interfered with reappear. It must be confessed that the treatment of hirsutes by electrolysis, although on the whole a successful method, and certainly the only available treatment which is permanent in its effects, is nevertheless a somewhat tedious and unpleasant process." How expensive a business it may be the reader can guess to some extent by calculating that each "sitting" will probably cost one guinea; and she must bear in mind that the process cannot deal with the fine downy hair that grows closely between the longer hair, and which will "show up" more strongly when the latter is removed. To those therefore who are troubled with a large quantity of hair on the face, the process of electrolysis is certainly not to be recommended; they had much better use a depilatory, or take courage in one hand and learn to use a razor.

Stye on the Eye (an inflamed tumour on the edge of the eyelid).—Some people are more prone to suffer from this painful ailment than others. It is more common in young people from 15 to 25 years old; and as it is one that admits of *preventive* treatment, it will be well to mention this, as well as the actual treatment of an existing stye. The causes which predispose to stye on the eye are—
 1. Neglect of thorough cleansing of the edges of eyelids and lashes. 2. Reading in bad light. 3. Sedentary habits. 4. Constipation and indigestion. 5. Functional irregularity in young women. 6. General debility. 7. Bad hygienic surroundings; for example, the escape of sewer gas into the house. 8. Sleeping in ill-ventilated or over-crowded rooms.

The first of these causes leads to *septic infection* through the hair follicle of the eyelash, and this is indeed the immediate cause of most styes. It is therefore most important to keep the eyelids scrupulously clean. They should be washed two or three times a day thoroughly

well with soap (a neutral, uncoloured, and little scented soap) and water, followed by rubbing well with a soft towel. This does more to prevent the appearance of styes than anything else, and there is no fear that the lashes will be rubbed out; *healthy eyelashes* cannot be rubbed out. If a little soap gets into the eye it does no harm. After the washing the lids should be bathed in a lotion made by mixing a tablespoonful of boric acid in a pint of boiling water and letting it grow cold. If a gummy secretion adheres to the eyelids, as it often does after sleep, when the lids will nearly stick together, it is very important that it be thoroughly cleansed off, and the boric lotion may be frequently used. Most of the other causes suggest their own treatment. For No. 5 a physician should be consulted; and in cases of debility cod-liver oil, iron tonics, sea air and bathing, or change of air, are important, and will be found the best remedies. If there is congestion in the white of the eye (bloodshot) an oculist should be consulted, as there is probably something wrong with the sight which may require proper glasses.

Treatment.—When the symptoms of a sty first appear, a lotion of *subacetate of lead* mixed with a teaspoonful of laudanum should be procured,* and the eye frequently bathed with it; this will often prevent the little tumour going on to suppuration. If the sty gets worse and appears to be coming to “a head,” it should be frequently bathed in a very hot boric acid fomentation made as directed above. When the yellow head is formed it should be pierced with a sharp darning-needle, and the matter gently squeezed out of it, after which it must be well and frequently bathed with the hot boric acid fomentation. It will very soon heal. A dose or two of the Carlsbad salts will be found of great benefit, as it lowers the inflammation. Over-use of the eyes must be carefully avoided, and walking exercise, fresh air, and wholesome food should be freely taken; without these, crops of styes will probably frequently recur. It is said that a teaspoonful of yeast taken once or twice daily after meals is often very beneficial in the prevention of this ailment.

There is a very simple treatment which is often found to

* This should be made up by a chemist.

effectually prevent a styne coming to a head; it is laughed at by medical men, and it certainly is not *scientific* treatment, but it is often *effectual*, and can by no possibility do harm. It consists in rubbing the styne, the very moment the first symptom of one is felt, with a gold ring which has been smartly rubbed on a piece of leather till it is so hot that the heat is sensibly felt when it touches the styne. This is of no use unless done at the very beginning. Bathing the eyes in strong tea is also a homely treatment for weak and styne-disposed lids; the astringent properties of strong tea are useful in this case. The parsley poultice given on p. 344 will also be found very soothing.

Thrush is a parasitic (fungus) growth which shows itself by little white spots appearing on the tongue, gums, and lips. It is chiefly an ailment of infants, but is a serious symptom in old age or after a long illness. It comes chiefly from stomach derangement, or from want of cleanliness.

The treatment for babies is to change the food if unsuitable, give a grey powder (tell the chemist the age of the baby), and rub a mixture, made by dissolving $\frac{1}{2}$ oz. borax in $\frac{1}{2}$ oz. water and mixing it in 1 oz. glycerine, over the affected part. This is much better than the honey and borax often recommended, because honey causes fermentation, whereas glycerine is an antiseptic. The mouth should be washed after feeding with soft rag dipped in weak boracic acid solution.

Toothache.—This may come from neuralgia; if it does, there is no use in having the tooth out. The fact that neuralgia may cause the pain should always be considered before having recourse to the forceps. If there is a hole in the tooth, pain may generally be relieved by mixing some tincture of opium and bicarbonate of soda, and taking up as much as possible on a bit of cotton wool and stuffing it into the hole. A bag of hot salt applied to the face is a good old-fashioned alleviative. Chloroform on wool put into the tooth will relieve, but may injure the enamel. Laudanum or chloroform on wool put into the ear on the affected side will relieve. *Creosote should never be put into decayed teeth*; it will relieve pain, but inevitably destroys the

tooth, which there will be no possibility of stopping afterwards. Rinsing the mouth with bicarbonate of soda and water often relieves toothache. A dose of 10 or 15 grains of antipyrin will frequently cure a toothache.

Note.—Care of the teeth prevents decay. They should *not* be used to do the work of knives, scissors, etc. By such ill-treating the enamel is injured, and then can never be re-formed; hence decay arises from a hole piercing through the denture to the nerve.

Ulcers (discharging sores) indicate an unhealthy state of constitution. Rest in a recumbent position is absolutely needed for ulcer in the leg. While the patient persists in going about the ulcer cannot heal, as the flow of blood downwards feeds the ulcer. The best application is the Red Wash which is largely used in hospitals for the treatment of ulcers and sores. Recipe—

Sulphate of zinc.....	40 grains.
Compound tincture of lavender.....	$\frac{1}{2}$ ounce.
Water	1 pint.

Cover the ulcer with a piece of lint or rag steeped in this.

Warts may be easily removed by painting every day for some days with aromatic vinegar. The wart turns black, and can be picked out by the roots. A little bleeding follows, which will stop when the part is bound up. *The wart will not grow again, and there will be absolutely no scar left after this treatment.* An American doctor recommends *carbonate* of magnesia, and says it will remove warts from the skin if taken night and morning in teaspoonful doses for several weeks.

Whitlow (an inflammatory gathering of the finger) occurs chiefly when the health is below par, and follows some slight injury, as a splinter entering the finger, etc. It is safer in every case to show a whitlow to a doctor, as there is always danger that a joint may be lost if the finger is neglected.

Treatment.—Poultice with hot bread and water or linseed poultices. When the gathering bursts or is opened by a doctor, it must be bathed in warm water and a fresh

poultice applied sprinkled with a little iodoform powder, which is a valuable disinfectant. Another treatment, which is said to be a sure cure, is to mix dried and powdered rock salt with equal quantities of spirits of turpentine; saturate a rag in this and keep it, re-wetting from time to time, applied to the part for twenty-four hours.

Worms.—These parasites are not generated naturally in the human body, but come from their eggs having been swallowed in unwashed vegetables, or bad water, or under-done beef or pork. No symptoms *surely* indicate their existence till they are seen. The three kinds which trouble human beings are—tape worms, round worms, thread worms. The two first, especially the tape worm, need medical treatment and drugs to get rid of them satisfactorily. Thread worms, which mostly occur in weakly children, can generally be got rid of by giving a dose of castor oil over-night, and an enema of a pint of warm water mixed with one or two tablespoonfuls of common salt, or one made by steeping a handful of quassia chips in a quart of cold water; let it steep all night, strain, warm, and inject from half to one pint. This injection may be used two or three times. Worms are more frequent in weakly children or unhealthy adults, because these pests thrive in the mucus secreted in a disordered state of the intestines. Plain, wholesome food, with little or no sweets, pastry, etc., which, on account of their fermentability, will increase the evil, and cod-liver oil and tonics, are needed by those who suffer from worms, and they should have plenty of fresh air and exercise, and everything that will strengthen the system.

How to Treat Accidents and Sudden Illnesses Before the Doctor Comes.

Apoplexy is caused by the bursting of a blood-vessel in the brain. It sometimes causes sudden death, sometimes partial recovery takes place, but the patient remains paralysed; occasionally recovery is complete.

Symptoms.—Usually the patient falls insensible, with flushed face, stertorous breathing, and probably foams at the mouth, while blood comes from the nose. There may be convulsions of the limbs and contractions of the face. It is often difficult to tell whether the symptoms be those of apoplexy or intoxication.

First Aid.—Raise head and shoulders, prop them up, loosen clothing everywhere. Bathe head with cold water (iced if possible), wrap calves, ankles, and soles in mustard plasters for twenty minutes; keep the patient very quiet and cool. If a doctor cannot come quickly, give an enema of soap and hot water (not above 95° F.), as it is important the bowels should act. If the patient can swallow, give a good dose of castor oil, as this helps to draw blood from the brain. Nothing must be given by the mouth if the patient cannot swallow naturally, as he may be choked.

Bites.—Always treat a bite (snakes, animals of any kind, or a bite by a human being) in the same way. Apply pressure of some kind, tying, or squeezing with fingers, above the wound, so as, if possible, to prevent the poison getting into the circulation of the blood; suck the wound as hard as possible without untying or taking off pressure, - pour warm water over it to induce free bleeding, which will

help to carry poison away; if warm water can't be had, hold wound under tap or jug and let water run over it. If possible, get a doctor to cauterise the wound; if one cannot be had, and the animal that bit is rabid, get a sharp knife and cut away round the wound so as to cause blood to flow freely. A lighted fusee is recommended by good authorities to be pushed into the wound. The great thing is *prompt* action which will stop the circulation above wound till it has bled freely and been washed and cauterised.

Black Eye, to prevent.—Apply fomentation of cold water as soon after the blow as possible, while some one mixes some spirits (any kind) and water; dip a double fold of lint or rag in this and apply it to the eye, keeping it frequently re-wetted, and covering with oiled silk. Arnica tincture may be dabbed round eye lightly, or the eye may be bathed in a lotion of arnica and water (a drachm to the ounce). Raw beef or a black briony root* poultice is used by pugilists. The root is scraped and added to bread and water, and remains bandaged on eye for 5 or 6 hours. Tincture of briony poured over bread which has been squeezed dry out of water may be used if the root cannot be had.

Bleeding, to stop.—Bleeding is of three kinds. 1. From an artery it is bright red, and rushes forth in spurts or jerks. 2. From a vein it is of a darker colour and flows more slowly. 3. From the capillaries—*i.e.*, the fine hair-like blood-vessels which connect the arteries with the veins—it oozes slowly.

1. To stop bleeding from an artery make firm pressure above the wound, and keep it up until some one comes who can help to put on a tourniquet; if pressure is relaxed the bleeding will break out at once. All the blood in the body may be lost in a few minutes if the artery be not closed.

To Make a Tourniquet.—Take a large square of linen, as a handkerchief, or anything of the like kind that may be at hand, fold it to make a bandage two or three inches wide, put within the folds, just in the centre of the bandage,

* The black briony grows in most hedges.

some hard substance, as a penny, a stone, etc., lay this just over where the thumbs are pressing down the artery (firmer pressure can be made with the thumbs than with any of the fingers), draw the ends of the bandage round the limb, tie, and then insert a stout stick under the tie, and twist until the flesh under it is tightly compressed; this will have the same effect on the artery as if the two sides of a pipe were hammered together to stop a leak of gas or flow of water; the limb must then be raised so as to keep the blood pressure as much as possible out of it, and the surgeon fetched or patient taken to hospital as fast as possible. If the pressure causes great pain and swelling of the limb before medical aid comes, it may be *very* cautiously relaxed, but if the least sign of bleeding recur it must be at once resumed as tight as before. If the part where the artery is severed be one in which a tourniquet cannot be applied, the only thing to save the patient's life will be to keep up the pressure, even though it be hours before a surgeon comes, and even though several helpers have to take turns at it and relieve each other, one slipping his thumbs under the other when changing.

2. If a vein be cut, firm pressure must be made, the limb, if possible, raised, and pads steeped in cold water applied.

3. Bleeding from the capillaries can be soon stopped by pressure or pouring cold water over wound, which causes the vessels to contract. In slow bleeding a clot generally forms, as the blood, unless it rushes out quickly, congeals from contact with the air. This clot should not be washed off until the wound has healed underneath, because it stops the bleeding, which will break out if the clot be removed. This has been called "nature's glue."

Bleeding from Lungs or Stomach (spitting or vomiting blood).—Keep patient quiet on back in a cool room, with head raised; give ice to suck and sips of lemonade. Apply wet cloths (iced if possible) to chest if bleeding is from lungs (when blood will be bright red and frothy); to pit of stomach—*i.e.*, under breast bone, if bleeding is from stomach (when blood is dark coloured). Give no stimulants; allow no talking. Send for doctor.

Bleeding from Nose.—Raise arms above and behind head. Apply cold substance or wet cloths, etc., to top of spine. Put feet nearly to knees in hot water; syringe nostrils with vinegar, or alum, or lemon juice and water, or with strong cold tea. Keep patient, as much as possible, from hanging head over basin. If steel drops can be had, mix some in a little water; dip cotton wool in and push up nose. If none of these methods stop bleeding, fetch doctor.

Bleeding after Confinement.—Keep patient lying quiet with head rather lower than body (when brain loses its blood unconsciousness supervenes), and give *at once* a glass of vinegar to drink. This quickly arrests this form of hæmorrhage. An internal injection of very hot water also arrests it.

Bleeding after Tooth Extraction.—1. Dip the tooth in oil or glycerine and press it back into cavity. 2. Push a bit of burnt alum into cavity, cover with plug of cotton wool or scraped linen, and bite firmly on this. 3. Dip pledget of cotton wool into steel drops or tincture of iron, or, if nothing else be at hand, into lemon juice, strong tea, or glycerine, and ram it into cavity. If none of these means stop the bleeding, fetch doctor.

Bleeding from Varicose Veins.—Raise limb, and press firmly (*but not roughly*) on bleeding spot with a soft pad of whatever comes most quickly to hand. Then bandage pad firmly on, and keep patient with limb raised till doctor comes. People who cannot get an elastic stocking should bandage their varicose veins with strips of unbleached calico.

Bruises.—If the skin be not broken, bathe with flannels wrung out of hot water, or cloths wet with cold water, or any kind of spirits and water, or apply whisky and salt on rag; or lint, or rub in fresh butter or oil; or bathe with lead lotion or tincture of arnica, 1 part with 7 of water. In people predisposed to eczema the use of arnica sometimes brings on the eruption. If the skin is broken,

bathe with tincture of calendula (marigold) and water. Bruised parts should be elevated to lessen blood pressure.

Burns and Scalds.—There are three kinds of burns:—
1. In which the skin is scorched but not broken, but in which blisters may form later. 2. In which the skin is broken and shrivelled. 3. In which the flesh is charred and the nerves and muscles are injured. The larger and deeper the burn the greater the danger.

The popular treatment of burns and scalds, by covering them with flour or whiting, is not a good one; the flour cakes on the burn (especially if the skin be broken), and often causes considerable pain and trouble in removing. Cotton wool or soft clean rags soaked in oil (any kind except mineral oil) is much the best application; or vaseline may be freely applied; the object, especially if the skin is broken, being to exclude the air as completely as possible. The covering should be bandaged on. Equal parts of lime water and linseed or olive oil makes the application for burns widely known as Carron oil, from being used in the great Carron Iron Foundry.

If the skin be not broken, an application recommended by the late Professor Billroth will, he says, ease pain and, if quickly applied, prevent the formation of blisters. It is this: cover the part with cotton wool, pour spirits of wine over this till saturated, wrap the whole in some waterproof material. *Note.*—Spirits of wine being inflammable, care must be taken that no sparks of burning clothing are near.

Another application that instantly relieves pain is a paste made of bicarbonate of soda (baking soda and water) spread over the burn and covered with cotton wool and a bandage. It must not be uncovered for three days; the wool will be found to come off dry. The place should then be dressed with carbolic oil (1 in 40) and lint.* Bathing the burn in carbonate of soda and water (a teaspoonful to a pint), or in plain cold water, before applying the oil, will relieve pain. Red currant jam or juice is sometimes used in France and Switzerland for covering burns, and is said to be excellent. Treacle has also been used when nothing else was at hand. Any of these may be thickly smeared on, and

* In applying lint place the smooth side next the skin.

covered with wool or rag and bandaged. Fresh butter or pure grease may be used if no oil can be had. Old people and children are more liable to death from shock after burns than robust adults.

Shock to the system after burning, or any other accident, is a very serious danger. After severe burns the body temperature falls, the skin becomes cold and clammy, the voice weak, the face pale and pinched, the pulse feeble. The first thing to do, after dressing the burns, is to get the body warm. Give quickly any hot stimulant, beef-tea, coffee, spirits and water (the spirits *must not* be given raw or mixed with too little water, or it will do harm), or hot wine. Put the patient into a warm bed, with hot water bottles, or in bad cases into a hot bath. Hot baths are very valuable for raising quickly the warmth of the body. "It has been recommended to keep a patient with severe burns immersed for days in a warm bath; it eases pain, diminishes suppuration, promotes healing, lessens contraction of cicatrix (scar)."—*Ringer's Therapeutics*.

After the bath the patient should be wrapped in hot blankets in bed. A celebrated German surgeon, Professor Esmarch, says: "After very extensive burns and scalds, the patients (particularly children) are often very quiet, experience little pain, only occasionally sighing and asking for water to drink. This generally is a sign of approaching death. Sometimes death can be warded off even in those cases by hot baths, and the injection of human blood into the veins, but for this purpose medical aid must be very quickly got." As transfusion of blood from vein to vein is a delicate surgical operation, which it may not be always possible to have performed, it is well to quote what Dr. Sydney Ringer says: "The freshly drawn blood of a fowl mixed with milk punch, warm wine or lemonade, is said to act better and more promptly than transfusion from vein to vein; it restores warmth and circulation. It must be drunk before the blood coagulates."

Scalds should be treated the same as burns.

The removal of clothing after burning should be done carefully. It must not be dragged off, or the charred skin and flesh may come off with it. Cut it off with a sharp instrument. If clothing is smouldering, or the person has

fallen into scalding water, drench immediately with cold water in quantities.

Burns from Chemicals.—Lime (falling into a lime-kiln), Caustic potash, etc. (alkalies); Carbolic or Sulphuric or Nitric acid (acids). Bathe after burns with *alkalies* with water mixed with an *acid*, vinegar, or lemon juice. After burning with an *acid* bathe with an *alkali*, as soda, soap suds, lime water, or plaster scrapings from walls, or whiting, or chalk and water. The acid neutralises the caustic action of the alkali, and the alkali neutralises the acid. The burnt part should be well bathed, then dressed as for an ordinary burn, with plenty of oil on cotton wool.

Cuts.—Wash well with cold water poured over wound, so as not to hurt by rubbing the edges; this also helps to stop bleeding. If edges gape draw them together and lay strips of adhesive plaster across; these should not entirely cover wound, but merely serve to keep edges together. Friars' balsam is a good styptic to stop bleeding; strong tea is another. *It is very important that cuts should be kept clean, as blood-poisoning may result from putrid matter getting into them.* Cobwebs and such things should *never* be applied to cuts. If the wound has been made with a knife that has cut bad meat, or dirt has got into the wound, it should be well washed with *permanganate of potash* solution (see p. 97) before binding up. Glass, gravel, etc., must be washed out of a wound by pouring water over before bandaging.

Child Crowing—*i.e.*, spasm of the opening of the windpipe.—Hold a bottle of smelling salts to nose. Put finger down throat to excite vomiting. Pull the tongue forward; this opens windpipe and prevents suffocation. Wring a sponge out of hot water and put it to windpipe. Medical advice is specially needed for infants affected with this spasm, as it is highly dangerous.

Choking.—Put finger down throat and try to pull up the substance, or slap the back so that it may be coughed up. A small child should be taken up by the heels, turned

upside down and smacked on the back, when the choking substance will generally drop out at once.

Convulsions (Infantile).—Put infant quickly into hot bath up to neck. Sponge cold water over head. Give, as soon as it can be swallowed, a dose of castor oil.

Croup.—Put sponge wrung out of hot water to windpipe till linseed poultice and hot bath can be got ready. Give a teaspoonful of ipecacuanha wine; repeat in ten minutes, if first has not acted, till child vomits freely. If suffocating, put finger down throat. Raise volume of steam near child. Give dose of castor oil. Fetch doctor quickly.

Dislocation.—If a joint is “put out” fetch surgeon quickly. The part swells soon after dislocation, and then reduction is much more difficult.

Ear, Substance in.—Turn head on one side and tap on the other; it may drop out. Bend a fine wire to form a hook, and gently try to twitch it out; but if this fails do not keep on trying, or the thing may be driven far in and dangerous mischief result. Fetch doctor, or take patient to him. If an insect is in ear, fill with oil and turn on one side. If a bean or pea has been poked into ear, put no liquid in, or the pea or bean will swell; take patient to doctor. The ear is a dangerous place to treat ignorantly.

Eye, Substance in.—Make a loop of a single horse-hair, draw forward lid, put loop under, close eye and sweep loop round; this causes no pain and quickly removes grit. Blowing the nose while a finger is pressed on the nostril furthest from the affected eye often will remove grit.

Eye, Lime in.—Bathe with weak vinegar and water. Consult doctor without delay if any sign of inflammation arises.

Fainting.—Lay patient quite flat *with head low*. Loosen clothing. Put smelling salts to nose; give air.

Fractures (Broken Bones).—A *simple* fracture is a bone broken clean in two. A *compound* fracture is a bone broken and with its ends protruding through the flesh. The first is easily turned into the second by careless or rough handling. Broken limbs should be handled most carefully, and a splint—*i.e.*, a support, such as an umbrella, stick, strip of paste-board, etc.—should be laid alongside and bandaged carefully, so as to keep the injured part from jolt. *The other leg is a valuable splint in case of broken leg.* People with broken legs should never be moved in a cab, but on a stretcher.

Frost-bite.—Rub part with snow or cold cloths, or bathe in cold water. Restore circulation by gentle rubbing. Give *cold* spirits and water. *Not until circulation is restored must patient be taken into a warm room or bed, or near a fire.* Mortification and death may ensue from doing so.

Fits.—Prevent patient from injuring himself by moving fenders, etc., out of his way. Place a pad between teeth, or tongue will be bitten. Loosen clothing. Do not subject him to pressure to restrain convulsive movements.

Intoxication.—Loosen clothing at neck. Keep patient warm (intoxication lowers body heat), and if able to swallow make him drink a mustard and water emetic, or a tumbler of vinegar and water. Bad cases require medical aid and a stomach pump.

Poisoning.—Useful emetics, which should be given *at once* if poison is taken (unless it be a *corrosive*, like carbolic acid), are 20 grains of sulphate of zinc in a tumbler of warm water; or an ounce of ipecacuanha wine, pure, for an adult; or a dessert-spoonful of mustard in a large tumbler of water, or a tablespoonful of salt in ditto. These should be followed by copious draughts of tepid water till free vomiting ensues. Soap and water, flour and water, or raw eggs may also be used. If stains and soddened blisters are seen round the mouth, it proves that a corrosive has been taken. Give no emetic, but oil in quantities, raw eggs, barley water, milk. If the corrosive was an *acid*, give also an alkali, chalk,

whiting, carbonate of soda to neutralise it; if an alkali corrosive is taken, such as caustic potash, give oil, eggs, and lemon juice or vinegar and water to neutralise the alkali. A sponge wrung out of boiling water should be put to the throat if symptoms of suffocation appear. In phosphorus poisoning *give no oil*, but give magnesia and water, white of egg, flour and water. In verdigris poisoning, give neither oil nor acid, but raw eggs and sugar. If the poison produces convulsions, dash cold water in the face when the first symptoms are seen, and douche head with cold water. In opium or chloral poisoning (narcotic), emetics must be given as fast as possible, to get the narcotic out of the system; then vigorous efforts must be made to keep the patient awake. If he goes to sleep he will probably never awake. Dash cold water in the face, flick wet towels round the body, give strong coffee, and make patient walk about. If patient can swallow, pass about twenty inches of narrow tubing, oiled, down the throat, put a funnel into the other end. After raising it above the head, pour warm water, or soap and water, etc., down till it bubbles up, then lower tube below level of stomach, and the whole contents of stomach will be emptied out. Remember that every moment the poison remains in the stomach increases the chance of death resulting, because it is being absorbed into the blood.

Sprains.—Put the injured part into water as hot as can be borne, or cover with cloths wrung out of cold spirits and water (half and half), or apply hot fomentations.

Stings.—Press a small key over sting; this will force sting up, and it can be picked out. Then apply any of these—1. A “blue bag” moistened. 2. Soda and water. 3. Sal volatile or ammonia and water. 4. Moist snuff or tobacco. 5. Bruised poppy leaf. 6. Rub on a slice of onion.

A “sting” is sometimes swallowed in eating fruit, and severe pain is caused; for this an onion should be chewed slowly and swallowed.

Sunstroke.—Remove outer clothing, loosen remainder, lay patient down with head and shoulders raised, and pour

quantities of water (preferably iced) from three feet above on to the top of head and down spine. Bathe chest and limbs in cold water, and if ice is procurable put it to head and spine. Keep patient in shade and current of air, or fan him. Wrapping in a wet sheet, and shaving the head, are useful methods of treatment. If unconscious, apply a mustard plaster or blister to nape of neck. Give a purgative dose or enema.

WEIGHTS AND MEASURES OF MEDICINES.

LIQUIDS.

60 drops makes 1 drachm or 1 teaspoonful.	
3 drachms, 1 dessert-spoonful.	
4 drachms, 1 tablespoonful or $\frac{1}{2}$ ounce.	
1 ounce, 2 tablespoonfuls or 8 drachms.	
20 ounces.....	1 pint.
2 pints.....	1 quart.
4 quarts.....	1 gallon.

SOLIDS.

60 grains	1 drachm.
480 grains	1 ounce.
16 ounces	1 pound.

POULTICES.

Linseed poultices should be made with crushed linseed, *not* linseed meal. The browner the linseed the better, because the more oily.

A poultice is no use unless very hot. Heat basin, knife, and flannel. Have water boiling. Sprinkle and stir well with one hand, pour on boiling water with other; mix till soft, firm, and it comes away clean from sides of basin; spread with knife on flannel, pour a little oil over surface; leave a margin of an inch of flannel all round, lay on skin with nothing between, cover with layer of cotton wool, and bandage with a broad strip of flannel.

Mustard Poultice.—Make a linseed poultice, and when mixed add a tablespoonful or two of dry mustard and mix well.

Mustard Plaster.—Mix mustard and lukewarm water (never *hot* water), spread on brown paper, and cover with tissue paper to lie between mustard and skin.

Vinegar and Bran Poultice.—Moisten bran with vinegar, make it very hot in oven or pot, put into flannel bag, tack up mouth; apply as hot as possible. Retains heat for a long time. When any poultice is removed the skin must be wiped dry.

Fomentations.—Lay a roller towel over a basin, between its folds put a square of house flannel. Over the towel pour boiling water to saturate flannel, insert a stick into each end of roller, and let two people twist each different ways till all water is expressed. Shake, fold into pad, apply quickly. Cover with flannel and waterproof.

Turpentine Stupe.—Sprinkle the flannel after wringing as above with two teaspoonfuls of turpentine.

Starch Enema.—Blend starch with a little cold water to a paste. Pour on boiling water till it is of the consistency of good cream. When cold inject into bowels, very slowly, four tablespoonfuls out of a syringe.

Lime Water.—Put a piece of freshly-slaked lime the size of an egg into a bottle, fill with water, cork, shake. Then let stand till clear, and use as required.

Disinfectant.—Permanganate of Potash (see p. 97).

TEMPERATURE OF BATHS.

Cold Bath.....	45° F. to 75° F.
Tepid „	85° F. to 92° F.
Warm „	92° F. to 100° F.
Hot „	101° F. to 115° F.



Invalid Feeding.

IN these closing years of the nineteenth century we are beginning fully to reap the fruit of the seed of truth sown twenty-three centuries ago in the golden days of Greece by the "Father of Medicine," Hippocrates, when he taught the value of *diet* as an adjunct to medicine in the treatment of disease, for physicians now recognise that the chemistry of the kitchen is in some cases of even more value than that of the drug shop, and they give an attention to directions about diet which was rarely thought of in former days.

This is in accordance with the more rational therapeutics which are the outcome of more exact scientific knowledge of the causes and nature of disease. Many diseases directly affect the digestive organs. All diseases weaken the body more or less, and in doing so influence the powers of digestion, which require a certain amount of physical force for the proper performance of their function. We can therefore understand that suitable feeding for the invalid is just as important a part of treatment as suitable medicine, and that the sciences of alimentation and cookery are indissolubly connected with the science of medicine, at all events as far as the department of therapeutics is concerned.

The aim of the following pages is not alone to give directions as to how certain dishes suitable for the invalid are to be prepared, but also to explain the nutritive value of different foods, the digestibility of various articles of diet, and to give hints upon the value of special diets in various states of ill-health. The principles of cookery and its effect upon food have been given in the section upon "Economical Cookery," p. 128.

CHAPTER I.

THE NUTRITIVE VALUES OF FOODS.

THE body requires food, not only for the repair of its constantly wasting tissues, and for the manufacture of animal heat, but also for keeping up the mechanical energy necessary for carrying on the various vital processes of existence, such as the work of the lungs in breathing, of the heart in its ceaseless pumping of the blood to all parts of the body, of the muscles in walking and daily work, etc., etc.

Food, to do these three things—1. To repair tissue; 2. To make force, or energy; 3. To make heat; must contain, besides water, four elements—

1. NITROGENOUS.
2. HYDRO-CARBONS.
3. CARBO-HYDRATES.
4. MINERAL.

The knowledge of the place that each of these elements occupies in supplying the wants of the body lies at the root of all intelligent knowledge on the subject of Food and Feeding. It is especially necessary for those who have to do with the feeding of the sick.

The *Nitrogenous* (or Proteid) is the most necessary of all the food elements. Its value is put forcibly thus. "The nitrogenous elements rank first in importance. They are used for the structure of brain, nerve, muscle, and gland. Protoplasm, the centre of life and energy in every individual cell, is formed of nitrogenous matters, and nourished out of them. Every structure in the body in which any form of force is manifested is nitrogenous. Nitrogen is indeed essential to every vital process. Deprived of it, every function of the body languishes, all

vigour and power dwindle and die out.”—CHEADLE. Nitrogenous food is therefore both tissue (flesh) forming and force-giving. The nitrogenous or proteid element is found in a large class of food stuffs. It exists in the form of pure *albumen* in the white of eggs. The *albumen* and *casein* (that is the coagulable part, which on the addition of rennet or acid forms curd) of milk are nitrogenous. Meat and fish are largely nitrogenous. The *gluten* of wheat, oats, and lentils is purely nitrogenous, so is the *legumen* of peas and beans and many vegetables. We have, therefore, a large range of foods from which to draw our nitrogenous elements.

Under the head of *Hydro-Carbons* we have fats and oils of every sort.

The hydro-carbons rank next in importance to the nitrogenous. Without fat or oil of some kind no food is capable of nourishing the body properly. *Fat*, besides being a very important *heat* producer, *contains the germ of new cellular growth*. Every tissue of the body, bone, brain, and nerves is built up from cells; therefore, for the proper development even of the hard, bony structure of the body, fat is pre-eminently required. The sad disease called Rickets, which attacks ill-fed children, and so often leads to permanent deformity, is said to be caused chiefly by *want* of fat. The high price of butter is considered by some physicians to be a potent cause of consumption. Fat is found in many other food articles besides meat. *Milk* is an emulsion of fat (*i.e.*, from its alkaline quality it is capable of holding fat finely suspended in water). *Cream* is fat in its most digestible form. The yolks of *eggs* are very rich in fat. *Fish* contains more or less oil. *Fowl*, *peas* and *beans*, and most of the *cereals*, notably *oatmeal*, all contain fat. The vegetable oils, such as olive oil, etc., are also very important forms of fat. We have therefore a very large class of foods from which to obtain the hydro-carbons.

The *Carbo-Hydrates* consist of *sugars* or *starches*. These also are heat producers, and in the body are in part converted into hydro-carbons (fats). This class of food is also very valuable, but as it is *non-nitrogenous*, it will not support life alone. Starch is found in all farinaceous foods and in potatoes, but mixed up with it is more or less nitro-

genous material also; but corn flour, arrowroot, sago, and tapioca are non-nitrogenous.

The *Mineral* constituents of food include *lime*, *salt*, *iron*, *potash*, *phosphorus*, etc., and are essential for supplying the hardening matter of bone, and for purifying the blood, as well as for other purposes. Their importance may be judged from the fact that no tissue or fluid of the body is without mineral salts in some form.

Water is of course an essential of every food. Without it no food could be dissolved so as to be absorbed into the blood, nor, without water, could the fluidity of the blood be maintained. It has also an important function, too often overlooked, that of washing out, through the action of the kidneys, waste and deleterious matters from the system. About two-thirds of the entire weight of the body is made up of water.

All these substances must be present in food which is to nourish the body properly, therefore *combinations* of different food-stuffs which will contribute the different elements are necessary to physical well-being. There is one food which is entitled to be called a *complete food*, because in it all the above-mentioned constituents are combined. That food is *Milk*. In milk we have albumen and casein, the *Nitrogenous* constituent; fat or butter, the *Hydro-carbon* constituent; sugar, the *Carbo-hydrate* constituent; lime, potash, phosphate of lime, iron, etc., the *Mineral* constituent; and water, to emulsify the whole.

“An analysis of cow’s milk shows it to contain in 100 parts—Water, 86; nitrogenous matter, 4.5; sugar, 5; fat, 4.1; salts, 0.7.”—LETHEY.

The quantity and quality of these five elements vary in different milks; but every one of them exists in every sort of milk, human and animal.

Eggs are a *concentrated* form of food, rich in the nitrogenous and hydro-carbon elements. The analysis of eggs show them to contain in 100 parts—

“Water, 75; albumen (nitrogenous), 14.0; fat (in yolk), 10.5; salts, 1.5.”—LETHEY.

Milk and eggs contain complete nourishment in the most perfect form for invalids, *if* they are digested.

As in most other cases where this conjunction is used

nearly everything depends upon it. It has been truly said that, "in examining results obtained from analysis, it is important to remember that the amount of nutritious substance which the chemist may succeed in extracting from a given food is not always a measure of that which the stomach can utilise."

The subject of the digestion of food, therefore, must also be considered by every one who has any concern in feeding the sick. Without some knowledge of it we cannot possibly know how to feed the sick.

CHAPTER II.

THE DIGESTION OF FOOD.

“Laughter is one of the greatest helps to digestion with which I am acquainted, and the custom prevalent among our forefathers of exciting it at table by jesters and buffoons, was founded upon true medical principles. In a word, endeavour to have cheerful and merry companions at your meals; what nourishment one receives amidst mirth and jollity will certainly produce good and light blood.”—HUFELAND, *Physiology of Digestion*, 1836.

DIGESTION is the process by which food is turned into nourishment for the body; it is a very complex and interesting one, and is carried on by the action of several *digestive ferments* contained in the juices secreted at different points along the course of the alimentary canal. This canal, in which the whole work of digestion is accomplished, is a tube measuring, in the adult, about *twenty-eight feet* in length, and divided into segments each connecting with the other; it may be compared to a passage, at one point becoming so much dilated as to form a chamber, the stomach, and then narrowing into a very long tortuous passage, the intestines.

“The number of distinct ferments employed in the digestion of the miscellaneous food used by man,” says Sir William Roberts, “is not accurately known, but there are at least seven or eight of them.”

Besides this chemical action of the ferments, a mechanical action is also required to put the food into a suitable condition to be influenced by the chemical action. The mechanical action is of three kinds, and they are voluntary and involuntary—*i.e.*, chewing, kneading, and propelling. *Chewing* is the initial step to the whole process of digestion, and is a *voluntary* action, because it is under the direction of the *will*. *Kneading* and *propelling* are involuntary,

because carried on without our even being aware of them. The muscular walls of the stomach possess the power of contracting upon the food, and kneading it, as it were, so that it becomes thoroughly incorporated with the juices of the stomach, from which, by a propelling action, it is pushed onwards into the intestines, and so through the entire length of their passage, in which it not only comes in contact with the various juices and ferments given out in the intestines, but is also subjected to the pressure and kneading necessary to work these juices into it.

The first ferment with which our food comes in contact is the *ptyalin*, contained in the saliva secreted from the blood by the salivary glands of the mouth at the rate, in adults, of from one to three pints a day (much more in some states of ill-health). The action of chewing causes these glands to give out their secretions, which serve the double purpose of softening the food so that it can be swallowed easily, and of digesting the *starchy* parts of it. In the previous chapter has been mentioned the food-stuffs in which starch is found. In itself starch is both indigestible and innutritious, *but ptyalin has the wonderful property of being able to convert it into that soluble, easily digested, and very nutritious form of sugar known as grape-sugar.*

The more thoroughly starchy foods are cooked the more easily does the ptyalin perform this action upon them, because the starch is in the form of tiny grains coated with a tough substance called cellulose (these can be seen only with the aid of a powerful microscope); cooking causes the grain to swell, and this tough coating then bursts. The ptyalin cannot act on the starch till it can get at it, and this it cannot do, or can only do very slowly and with great difficulty, till the tough covering is removed. Here is the reason why underdone potatoes, oatmeal, etc., are so disastrous for invalids, and from this knowledge we gain two practical lessons, especially important for children and invalids: 1. That mouthfuls of starchy foods—puddings, porridge, bread and butter, and so on, *should not be bolted, i.e.,* swallowed down without chewing with the teeth; if this is neglected it cannot be mixed up with the ferment necessary for its digestion. 2. That liquids should not be

sipped while starchy food is in the mouth; tea, milk, etc., taken into the mouth before the food is swallowed will of course prevent its being acted upon properly by the saliva ferment. These points are not of much moment to strong, hearty people with powerful digestions, but they are by no means trifling to invalids or young children, whose digestive functions are much on a par.

The next ferment we find in the *Pepsin* of the gastric juice. This has its own especial work. The *ptyalin* of the saliva acts on starch, *but has no action on meat or fat*. The *pepsin* of the gastric juice has *no action on starch or fat*, but it digests nitrogenous substances—meat, gluten of bread, albumen of eggs, casein of milk, etc.; these it liquifies and converts into *peptones* (see Chapter VI. on Predigested Foods). In the gastric juice there is also an acid which helps in the digestive process, and which, *when milk reaches the stomach, turns it into a more or less solid curd*. This is a fact of the last importance to remember in feeding the sick. Many people forget that milk is only *liquid* until it gets into the warmed acid juice of the stomach, where it becomes *solid*. Salt and sugar are dissolved by the gastric juice and taken into the blood. (Salt is a stimulant to digestion, so are pepper and mustard in moderation, but salt is the chiefest; *it increases the flow of intestinal juices*. This use of table salt is frequently overlooked.) Gastric juice has another remarkable quality—it has the power of correcting and preventing putrefaction. It is this property of the gastric juice which enables people to eat “high” meat and game with impunity.

The reason why the chewing of meat is so important is that, although the *ptyalin* of the saliva has no action upon meat, the gastric juice can only digest it properly if it arrives in the stomach well ground up. The jaws and teeth answer the purpose of a mill. Nature has placed this mill at the entrance of the Alimentary Factory of the body; if we rush the food through the entrance down into the factory, and neglect to pause at the mill and subject the food to the first of all the processes absolutely needed for its digestion, we not only run serious risk of suffering digestive damage, but we certainly waste a good deal of the nutriment of the material thus ill-treated, as it will be passed

on from the stomach, which cannot deal with large lumps of unchewed meat, only partly digested, and will thus in great measure be passed out of the body and lost.

Leaving the stomach, the food enters the small intestine and encounters the juice and ferments of the Pancreatic Gland (called the sweetbread in animals), which pour into it. This is a large gland weighing from two to four ounces, and six to eight inches long, which lies below the stomach; its juices contain several ferments, which have the combined action on food of the ptyalin of the mouth and the gastric juice of the stomach—that is, it converts starch into sugar, and proteid (nitrogenous) matter into peptones. It is an *alkaline* juice which acts upon fat by *emulsifying* it, and so causes it to be taken up in the most inconceivably minute particles into the blood. The Liver (the largest gland in the body, weighing nearly sixty ounces) also sends the *bile* secreted by it from the gall bladder into the small intestine to meet the food after it has left the stomach. The action of the bile, at least as far as is at present known, is to further emulsify fats. The liver has also other very important and complicated parts to play in the production of heat, in the purification of the blood, and in dealing with the products of digestion, but there is not space to enter upon them here.

The small intestine measures about twenty feet; it is connected with the stomach at one end and with the large intestine at the other; the openings are protected by valves, which allow the digested food to pass onwards from the stomach, but prevent it from passing back.

The large intestine is five or six feet long. Juices are poured out all through the long course of the intestines; these produce further changes upon sugar and the casein of milk. In fact the digestive process is in a certain sense a double one—first there is the digestion of starch and nitrogenous matters in the mouth and stomach, then the same thing takes place in the intestines, so that any food that escapes the action of the first has a chance in the second. The intestines are packed away in coils in the abdomen; it is only by being curled in upon each other that they could be accommodated in so small a space.

This brief sketch will enable any one to understand what

an important process digestion is, and how indigestion may come from many different causes. In weak states of health it may come from failure of a sufficient secretion of the digestive ferments. In fevers the mouth is dry—when we know the importance of the saliva and its ferments we can properly appreciate the danger of this. The debility of illness (or that brought on by want of exercise and unhealthy living) may cause a lowering of the vital energy necessary for the *mechanical* part of digestion. These facts teach us the importance of *digestible liquid* nourishment in such cases, because it can be quickly assimilated without the necessity of the prolonged work of digestion required by solid foods.

I have known doctors to be greatly harassed by the anxiety of friends that the patient (perhaps with a temperature of 104° F.) should have solid food. If people only knew the elementary facts of the process of digestion, as just given, they would understand why solid food may be as bad as poison to those who are seriously ill.

The reader's attention is directed to the table on p. 337, showing the time taken to digest the different kinds of foods.

It is found that sweetbreads, lambs' or sheep's trotters, and white fish, such as whiting, haddock, plaice, sole, and skate, are as digestible as tripe, therefore any of these are excellent for convalescents before they begin to have meat. Game is more digestible than meat, because the fibre of the flesh is shorter; hare forms an exception, though very nourishing it is not digestible enough for a convalescent from severe illness. Hares should always hang for some days before cooking. Vegetables are the most easily digested in the following order:—

Cauliflowers, Jerusalem artichokes, beetroot, French beans, young peas, stewed celery, turnip tops, spinach. They are *all* indigestible if not thoroughly cooked. It must be remembered that the table on p. 337 gives the *average* time required for the digestion of the articles mentioned, but individual digestions vary as much as individual faces. Some people digest very slowly.

It is well to remember that warm food is more easily digested than cold food, which reduces the temperature of

the body. Food must be brought up to the temperature of the body before it can be digested, and to do this after eating cold food is a great effort for a weakly stomach. Re-heated meat is harder to digest than that which is freshly cooked; it should never be given to invalids.

CHAPTER III.

HINTS ON FEEDING THE SICK.

“Variety’s the very spice of life.”—COWPER.

“WHAT do you call nothing? Know, sir, there are *no* trifling events in war!” said the great Napoleon to his *aide-de-camp*, Charles le Brun, who, when asked as to the cause of a sudden night alarm on the plain of Sussenbrun, replied that “it was nothing, merely a few marauders.” For the attendant on the sick, as well as for the soldier on active service, this is a very good maxim. *There are no trifling events where the care of the sick is concerned*, and this is particularly so with regard to his food and feeding. Miss Nightingale, the great pioneer in nursing reform, said many years ago, “There are four causes any one of which will cause a patient slowly to starve to death from want of nutrition—

1. Defect in cooking.
2. Defect in choice of diet.
3. Defect in choice of hours for taking diet.
4. Defect of appetite in patient.”

All these things, except perhaps the last, are *preventable* causes, and even the last—want of appetite in the patient—sometimes comes from the carelessness or tactlessness of the attendant.

The first of these “defects” has already been dealt with by giving the general principles of cookery (p. 128), but practice and experience are necessary, as well as theory, in cooking as in other arts. Good cooking is most important for invalids; not only does bad cooking disgust, but in many of the dishes required by the sick improper preparation may rob them of nearly all their nutriment.

The “defect” in the choice of diet is responsible for a great deal of mischief. Disobedience to the doctor in

dieting patients in serious illness, *typhoid fever especially*, has caused hundreds of deaths. In these cases it is of the utmost importance to obtain exact instructions from the doctor, and to keep a written record of the food taken by the patient.

The third "defect" in the "choice of hours" is one of importance in an illness. Many amateur nurses seem to think that sick people should always have something by them "to pick at." They entirely forget that sick people have to digest their food as well as others, and that though "little and often" may be a very good rule for feeding the sick, "often" should not be stretched to mean eating at all sorts of odd hours. An invalid's meals, though they may be more frequent, should be just as regular as for people in health; irregular hours of feeding are naturally even more injurious for the sick than the well; there should always be an interval for digestion between even the smallest meals.

People often ask "ought sick people to be fed at night as well as during the day—and ought I to wake the patient to take nourishment?" These are questions that can only be answered according to the case, and they should *always* be addressed to the doctor in attendance. In many cases the giving of nourishment at night is most important. Sometimes sleep is even more necessary than food. Sometimes apparent sleep is but the stupor of weakness, and the patient must be roused to take the necessary nourishment. It all depends upon the nature of the illness.

It is very important that invalids should have their last meal early enough in the evening to allow of their getting settled to rest in good time, and it is equally important that they should have breakfast *as soon after waking as possible*. It is intolerable for a poor weak creature, who has perhaps had a bad night, to be kept waiting till the family breakfast hour of nine or ten o'clock. Wherever the household does not keep early hours there should always be, in case of illness, a gas stove or spirit or oil lamp at hand with which the invalid's early breakfast may be prepared.

The last "defect," want of appetite in the patient, is one of the most serious difficulties with which the nurse may have to deal. *Tact* is necessary in dealing with sick people,

and common sense also. I have known an amateur nurse stand with a cup of beef-tea in one hand and a dose of medicine in the other!

Frequently sick people are half starved because the attendant asks, "What would you like?" the invalid, too weak to think of what he would like, and having no appetite to prompt ideas on the subject, replies "Nothing," and is perhaps left hour after hour, the nurse waiting till he asks for food!

The rule with seriously sick people should be never to question them. The person to question is the doctor as to what the patient may have, and then it should be brought in punctually, and if not eaten should be taken away out of sight. Of course the nurse, if she does not know them, should find out any special dislikes of her charge, but she should question as little as possible. Food brought to the bedside, looking nice, and coming as a surprise, will often be relished by a person who, if previously questioned, would have declared he could not touch a morsel. Again, in feeding sick people *do not* stick to one everlasting diet and think it will kill them to alter it. This is a "defect" that may lead to such disgust of food that the patient will be half starved. People are apt to get such stereotyped ideas about sick diet, as if it consisted exclusively of beef-tea, sponge cake, jelly, and chicken, to the exclusion of everything else, and even these delicacies may, through long use, become so monotonous as to be utterly distasteful. Those who have the care of the sick should study combinations of articles, both nourishing and digestible, so as to give that variety that is "the spice of life."

The late Professor Billroth said that a lady once told him that "a sick nurse had made the taking of soup quite impossible to her, because the nurse would always taste it in her presence."

Here is exactly an instance that proves that nothing is a trifle where the feeding of the sick is concerned. This nurse thought nothing of the "trifle" of tasting the food in the patient's presence, but it had the serious effect, which *may* even have led to fatal consequences, of depriving the patient of the ability to take a valuable form of nourishment.

The little gelatinous "string" attached to the yolk of an

egg is the merest trifle, no doubt, but when want of care leaves it in the beaten-up egg and milk, or custard, etc., the disgust it occasions to many people may completely prevent them from taking the extremely valuable nourishment to be found in eggs. A musty egg, if allowed to sneak into puddings, etc., may also utterly disgust an invalid from that form of food.

The smell of cooking is another serious "trifle." It *must not* be allowed to penetrate to the sick-room. In small houses the cooking of strongly-smelling things, like onions, fried fish, etc., should not be practised at all during the illness of any of the family.

Except the making of tea or toast, or the boiling of an egg, no cooking should be done in the sick-room. Nor should food of any kind (except a tin of biscuits or the sugar) be kept in the sick-room. It is a certain sign of incompetent nursing, only too often witnessed, to see a plate of food lying by the bedside, jelly feebly melting, or grapes growing flabby, while the patient's very appetite for them is taken away by watching them deteriorating under his eyes. The air of a sick-room is never as pure as that occupied by healthy people. Even with the greatest care the exhalations from the sick make the air rapidly impure, and especially unfit for keeping food in (particularly milk, see p. 390). Where there is very little accommodation, *the window-sill* makes a good extempore larder, and a common red flower-pot, turned upside down, makes a capital cover for jug or plate containing milk, butter, etc.

Ice keeps for many days if in a block, wrapped in a thick blanket, on a cellar floor. It can be easily broken with a stout pin. A good way to keep small bits by the bedside is to spread a piece of flannel over the top of a glass or small basin, tie it round loosely, so as to form a cup that will hang into the glass, and put the bits of ice in this, the water will drain through into the glass; a piece of flannel may cover it also. For people who cannot sit up, a feeding cup (which can be bought for a few pence) is of importance. It is far better with a spout without a strainer. Feeding cups with strainers cannot be properly cleaned. A small teapot will do for a makeshift, if a feeding cup cannot be had.

Small sick-room refrigerators can now be had cheaply; they are most useful to stand on the landing.

When the appetite returns during convalescence *relapses* are often caused by yielding to the patient's cravings for unsuitable food.

CHAPTER IV.

MILK DIET.

“I once met with a bacterium, but only once, that would not live in milk, for extremely numerous as the varieties of bacteria appear to be, almost all of them seem to thrive in that liquid.”—LORD LISTER, F.R.S.

I HAVE headed this chapter with the above quotation, hoping to impress upon those who read these pages the importance of the proper care of milk, and the necessity of a good milk supply.

When we know that milk is one of the most fertile breeding-grounds for disease germs of all kinds, we can see how important these three rules are for its keeping—(1) Always to *boil* it, unless we are *absolutely* certain of the source from which it comes. (This we can *never* be, unless we have cows on our own premises.) (2) Never to keep milk in a sick-room. (3) Never to keep milk anywhere *uncovered*.

Milk has an extraordinary power of absorbing impurities, and if kept in an ill-ventilated larder, or near a leaking drain, may soon become unfit for use.

Boiling prevents putrefactive change; in hot weather the sooner it is boiled after milking the better. A saltspoonful of bicarbonate of soda to the quart of milk will preserve it for a considerable time from souring. The same amount of salt may be added with advantage, and without its flavour being perceptible.

The cases in which a diet of milk only is necessary will, of course, depend upon the nature of the illness and the doctor's orders; such cases are always those of serious illness, and will almost certainly require the milk to be peptonised. (See Chapter VI.)

In the intelligent and rational feeding of the sick the

place that milk occupies is a very important one. The *unintelligent* use of milk may do an infinity of harm. The facts must never be lost sight of that cow's milk is *not* easily digested in a pure state, and that it is *not* a liquid food *in the stomach*. The casein of cow's milk forms a tough clot when coagulated with acid, and in weak stomachs this clot (formed by the acid gastric juice) is not easily digested. A very simple experiment will show the nature of this clot. Boil a teaspoonful of vinegar with a teacupful of milk, and in a minute *a clot like a ball of putty* will form in this innocent-looking liquid. This practically demonstrates *what* the casein of milk is, and how injurious it must be to put pure cow's milk into a delicate stomach. When, however, the milk is mixed with equal parts of *barley* water, you may boil it in the same way with vinegar, but you will never get a clot!

Milk, therefore, should always be diluted with barley or soda water, or lime water—or any of the effervescing or mineral waters now in such general use—before it is drunk by sick people. It is a mistake to think it is made less nutritious by such dilution; it is really made more so, because it is only *what we digest* that nourishes us. Professor Germain Sée, an eminent French authority, remarks, "As soon as the functions of the stomach are disturbed, *milk digests badly*; it forms clots in the stomach accessible with difficulty to the gastric juice, and often leaves that organ unpeptonised."*

In illness the functions of the stomach are always disturbed.

It must have been the knowledge of this fact that caused Hippocrates to avoid the employment of milk in febrile diseases. But when properly treated, milk *is the most valuable of all foods*, because it contains all the constituents for perfect nutrition, and nurses ought to remember that there are many ways in which it can be given besides merely as a beverage. It will often be better digested and liked when taken in the form of soup, custard, junket, etc., than when merely sipped out of a glass. An immense amount of nourishment may be given in this way.

The following are some simple recipes of easily prepared milk foods:—

* And therefore incapable of being assimilated.

NOURISHING MILK GRUEL.

Mix well two heaped tablespoonfuls of coarse oatmeal with a pint of milk, strain through a perforated tin strainer into a saucepan, place on the fire, stir frequently till it thickens, then add a little salt—if this is put in at first it interferes with the swelling of the meal—then boil for ten or fifteen minutes, stirring often. Can be made thicker or thinner by using more or less meal. Sugar may take the place of salt if preferred. The addition of a little cream makes it excellent.

CUSTARD.

Place a jug with a pint of milk sweetened and flavoured to taste in a saucepan half full of hot water; when the milk is warm add three whisked and strained eggs. Stir from the bottom until it thickens, then take up at once. If the custard boils it will curdle. Will be thicker cold than hot, but can be used either way. A little grated nutmeg is an improvement. More eggs, and cream, will make a richer and very nourishing custard.

SAVOURY CUSTARD.

Half a pint of strong beef-tea (which may be flavoured to taste with celery, or parsley, onion, or any other vegetable), pepper and salt to taste, two or three whisked eggs. Make as above.

AMBROSIA.

Equal parts of fresh milk and beef-tea, salted to taste. Half fill a large tumbler with this, and fill to the brim with soda, seltzer, or potass water. A well whisked new-laid egg, or half of one, may be added if the patient will take it. (This is an excellent drink.)

CURDS AND WHEY.

Two teaspoonfuls of essence of rennet, a pint of milk *barely lukewarm*. Mix and stand in a warm, *not a hot*, place. It will be ready in fifteen or twenty minutes. The

curd and whey is to be eaten together. A little cream poured over improves it.

DEVONSHIRE JUNKET.

A pint of fresh milk flavoured with *a few drops* of vanilla, or almond flavouring, or with cinnamon, and two table-spoonfuls of brandy or rum, mix well, add a dessert-spoonful of rennet, stand in a warm place twenty minutes, dust with nutmeg or powdered cinnamon, and pour some thick cream over. (Patients have taken this readily when they would not take milk in any other form, and it is a capital vehicle for giving some stimulant when needed.)

MILK PUDDINGS.

These, as of rice, tapioca, sago, semolina or macaroni, are more digestible for invalids if made without eggs or butter, as the heat employed in baking makes the eggs rather tough. *Semolina* and *macaroni* are made chiefly from the gluten (the nitrogenous or flesh-forming part) of wheat, and are therefore *very* much more nutritious than any of the other cereals, etc., used for pudding making. "Weight for weight," says Sir Henry Thompson, "macaroni may be regarded as not less valuable for flesh-making purposes than beef or mutton."

FARINACEOUS MILK.

This is more digestible than plain milk. Blend smoothly with a little cold milk a dessert-spoonful of well-baked flour, mix with a pint of hot milk and boil for five minutes, carefully stirring to prevent burning.

ARTIFICIAL HUMAN MILK.

This is often very useful for invalids as well as babies. I quote again Dr. Playfair's directions for making it:— "Heat half a pint of skimmed milk to about 96° F., that is just warm, and well stir into the warmed milk a measure* full of Walden's Extract of Rennet.† When

* About a teaspoonful.

† If this cannot be had, any chemist will supply a reliable extract of rennet.

it is set, break up the curd quite small, and let it stand for 10 or 15 minutes, when the curd will sink; then place the whey in a saucepan and boil quickly. In a third of a pint of this whey dissolve a heaped-up teaspoonful of sugar of milk. *When quite cold* add two-thirds of a pint of new milk and two teaspoonfuls of cream, well stirring the whole together.”* This must be made fresh twice a day, as it does not keep well. It is much better to make it at home than to procure it from a dairy at a long distance, as it is liable to injurious change if kept many hours.

KOUMISS.

Real koumiss is made from the milk of mares feeding on the Steppes of South-eastern Russia, and is a very ancient preparation. Herodotus mentions its manufacture by the Scythians, but it is only within the last fifty years that it has come into prominent use as a therapeutic agent, principally in the treatment of phthisis. Artificial koumiss is made in this country from cow's milk, and is an *extremely* valuable preparation. I have had experience of its value in commencing cirrhosis of the liver where nothing, not even beef-tea, could be kept on the stomach, but koumiss was easily assimilated, and I believe saved the patient's life. In tubercular disease, wasting, scrofula, rickets, scurvy, indigestion, and debility from any cause, it is most valuable.

Dr. Stange, of St. Petersburg, gives the following recipe for the preparation of real koumiss, but it requires practical experience to make it properly:—“Two tablespoonfuls of wheaten flour are mixed with water, and two spoonfuls of millet, one of honey, and a little beer yeast are added. The mixture is stirred up with some mare's milk to the consistence of gruel, and left to stand in a warm place. It soon turns sour and begins to ferment. It is then tied up in a small linen rag and put into the vessel in which the koumiss is to be made, and about five litres† of freshly-drawn mare's milk slowly poured in with constant stirring. The milk

* This must of course be warmed for use for an infant, or those to whom cold milk is not allowed.

† A litre is a French measure. Its capacity is equal to nearly 1¾ pints.

then, if kept at a temperature of 86° to 90° F., is at the end of twenty-four hours in a state of fermentation, and forms an agreeable, acidulous, spirituous drink. It is then bottled, corked, and kept in a cool cellar till wanted. The same mass of ferment will serve for the preparation of several portions of koumiss."

ENGLISH HOME-MADE KOUMISS.

This may be made by mixing one quart of butter milk with two quarts of fresh milk and a tablespoonful of powdered sugar. Stir until this is melted, cover with a cloth, and stand near a good fire for twelve hours. It should then be bottled and the corks tied firmly down, as the fermentation causes great effervescence. The bottles must be kept lying. (*Note*.—Koumiss can be ordered through a chemist if the dairy cannot supply it. Small syphon taps can be had to insert in the cork. These save their own expense, as they prevent waste from the great effervescence when the koumiss is opened.) Cow's milk koumiss is said to have as high nutritive properties as that made from mare's milk.

LENTIL SOUP.

Put one pint of Egyptian lentils into a quart of cold water with a small shred-up onion and carrot, a little parsley, and a slice of fat bacon, bring to a boil and then simmer for two hours, stirring occasionally to keep from burning. Rub through a hair sieve with the back of a spoon, and add milk to make it the consistence of good cream. Pepper and salt to taste. After the milk is added it must be heated up again.

Note.—This is an *extremely* nourishing soup, most excellent in convalescence. Sir William Roberts says that lentils contain twice as much proteid (flesh-forming) matter as wheat or oats, and nearly twice as much lime. They are also very rich in iron, which is a valuable blood purifier, and contain little if any sulphur, so that they do not cause flatulency.

POTATO SOUP.

Six potatoes and two onions, well cooked; rub them through a wire sieve with milk till of the consistence of cream, add a piece of butter the size of a walnut (this may be omitted at discretion), pepper and salt to taste, and boil up. A whisked new-laid egg may be added when the soup is in the tureen. This is a very light nourishing soup.

CHAPTER V.

LIQUID DIETS—BEEF-TEA, ETC.

“*Boiled Beef-Tea is spoiled Beef-Tea.*”

THIS axiom must never be forgotten by the cook for the sick.* Too often it is thought that boiling beef and water will make *beef-tea*. It will not, simply *because* boiling, instead of drawing the nutritious albumen *out* of the meat, *coagulates it, and hardens it into the fibre of the meat.*

Three rules should be observed in the making of Beef-tea. 1. The meat should be *very* finely minced. 2. It should be put into *cold* water, and allowed to soak in it for at least half-an-hour. 3. It should never be allowed to come near the boiling point.

BEEF-TEA.

Place one pound of juicy beef, weighed without fat or skin and minced *very* small, in a jar with one pint of cold water (clean rain water, well boiled, and allowed to grow cold is best). Stir it up, and let it stand for an hour, then place the jar, closely covered, in a saucepan of cold water, which bring to a simmer, and let it simmer *gently* round the jar for two hours, add salt to taste, and strain off through a coarse strainer or sieve. It can be warmed up as required. The *sediment* is always to be used, much nourishment is in it.†

* The making of beef-tea should not be left to a self-opinionated cook.

† Beef-tea and all broths are better made the day before they are used, as when cold the fat can be thoroughly removed. It can be cleared away with blotting-paper when hot.

BAKED BEEF-TEA.

Make exactly as above, but place the jar in a moderately hot oven for two or three hours, or all night in a cool oven.

QUICKLY MADE BEEF-TEA.

Put one pound of finely-minced beef into a saucepan with a pint of cold water, or less if wanted very strong, and a pinch of salt. Let it stand for ten minutes, then place on a low fire or gas stove and let it come gradually to nearly, but not quite, a simmer. Keep at this point and stir occasionally for fifteen or twenty minutes.

DR. PAVY'S RECIPE FOR SAVOURY BEEF-TEA.

Three pounds of lean beef chopped fine, three leeks, one onion with six cloves stuck into it, one small carrot, a little celery seed, a small bunch of herbs (thyme, marjoram, and parsley), one teaspoonful of salt, half a teacupful of mushroom ketchup, and three pints of water. Prepare as directed in first recipe.

BEEF-TEA—ANOTHER METHOD.

Dr. Newsholme gives the following recipe for beef-tea:—

“Take $\frac{3}{4}$ lb. of lean gravy-beef, remove all skin and gristle, cut into pieces an inch square, place in a basin with a gill* of cold water, add a little salt, and leave for an hour, so as to allow the water to draw out all the juices of the meat. Next take the pieces of meat out of this water, put them into a jar with a pint of cold water, and put the jar into a pan of boiling water for two hours. After removing the jar, pour the gill of cold juice into the hot beef-tea; remove the pieces of meat and pound well in a wooden bowl with the end of a rolling-pin, adding any liquor which exudes to the beef-tea. Flavour with celery or cloves if desired.”

“The beef-tea,” says Dr. Newsholme, “thus prepared, is much more nutritious than that prepared by slow heating of the whole mass in the oven, or in a saucepan of boiling water on the fire.”

* Quarter of a pint.

CHICKEN BROTH.

Make as directed in the first recipe for beef-tea, using, for good broth, a pound of chicken to a pint of water. An old fowl, or *chickens' necks*, will do very well for chicken broth. The bones should be well broken, and the meat cut up before adding the water. Boiled rice, barley or sago may be added to thicken the broth. The addition of a little parsley makes a nice flavouring.

BEEF-TEA AND ITS USES.

Beef-tea is an admirable *stimulant*, but it is NOT a food. This it is well for every nurse to remember. Dr. Milner Fothergill, an authority on dietetics, has made some strong statements on this point which are worth quoting, so as to impress the fact on the mind. "Beef-tea," he says, "is not a food, it is a stimulant. To give beef-tea *alone** to a sick person is to give him a stone when he asks for bread. Grateful and acceptable to the palate and stomach, possessing stimulating properties, beef-tea has its value.† But, all the same, as regards its food value it is but a jackass in a lion's skin. The mistaken views about the nutritive value of beef-tea have been murderous. All the bloodshed caused by the warlike ambition of Napoleon is as nothing compared to the myriads of persons who have sunk into their graves from a misplaced confidence in the food value of beef-tea. As a food, it is but as the mirage of water seen by the thirsty traveller in the desert."

This seems very strong language, but it is no doubt quite applicable to the boiled decoction so often made by the ignorant, and which is scarcely more nourishing than hot water.

It is a wholesome warning against depending on beef-tea to the exclusion of other things, as milk, eggs, gruel, etc. It is only when we do this that language so severe is justifiable, otherwise beef-tea, when properly made, is a valuable stimulant. And in illness a stimulant often acts as a rope

* That is as the sole and only food.

† The stimulating properties of beef-tea, or meat extract, as a drink in severe bodily labour was proved by Dr. Parke's experiments with marching soldiers, who were unanimous in favour of it.

to the drowning, or as a poker acts on a fire that is going out. The poker must be supplemented by coal, or the revived fire will soon burn away, and the invalid revived by a cup of good beef-tea must be provided with something that will *repair* the tissues of the body, after its vitality has been spurred up by the stimulation of the beef-tea, or they will waste away; but this reparative substance, as eggs, milk, baked flour, any of the prepared "foods" now so largely sold, oatmeal, rusks, even bread-crumbs, can be conveyed to the stomach by using beef-tea as a vehicle with which to mix it.

Sir William Roberts, M.D., F.R.S., to whom the public are so deeply indebted for his valuable practical teaching on the predigestion of foods, speaks of beef-tea and meat infusions in words I cannot omit.

"There is a wide-spread misapprehension among the public in regard to the nutritive value of beef-tea. The notion prevails that the nourishing qualities of the meat pass into the decoction, and that the dry hard remnant of meat-fibre which remains undissolved is exhausted of its nutritive properties, and this latter is often given to the cat or dog, or even, as I have known, thrown away as useless rubbish into the midden. A deplorable amount of waste arises from the prevalence of this erroneous notion in the households of many who can ill afford it. The proteid matter of meat is, as you know, quite insoluble in boiling water, or in water heated above 160° F. The ingredients that pass into solution are the sapid extractives and salines of the meat, and nothing more, except some trifling amount of gelatine. The meat remnant, on the other hand, contains the real nutriment of the meat, and if this be beaten to a paste with a spoon, or pounded in a mortar, and duly flavoured with salt and other condiments, it constitutes not only a highly nourishing and agreeable, but also an exceedingly digestible form of food."*

COLD-MADE INFUSIONS OF MEAT.

"The defect in nutritious value of beef-tea," says the above authority in his valuable work on *Diet and Digestion*,

* See recipe for potted meat, p. 161.

“led Liebig* to suggest the use of cold-made infusions of meat. He recommended that minced beef should be infused in cold water, acidulated with a few drops of hydrochloric acid. An infusion so prepared differs essentially from beef-tea in the fact that it contains, in solution, a large amount of albuminoid (*i.e.*, nitrogenous) matter. The addition of the acid is, according to my observations, a needless complication of the process. Infusions quite as rich in albumen were obtained when simple water was used as when it was acidulated. Infusions made from minced meat, with half its weight of water, and allowed to stand for two hours, and then pressed through a cloth,† were found, on analysis, to contain over four per cent. of dry albumen. This amount of proteid is equivalent to that contained in cow’s milk. The nutritive value of such infusions is therefore very high. When heated to the boiling point, they coagulate into a solid jelly. Made from beef or mutton, the product has an unpleasant bloody appearance; but when made from veal, the coloration is much paler. The best preparation, however, is made from the meat off the breast of a chicken. This meat is nearly white, and it yields an infusion which is almost colourless, and which sets, on heating, into a solid white jelly of very agreeable appearance. Cold-made meat infusions cannot be heated above 144° F. without becoming turbid from commencing coagulation of albumen. It is therefore impossible to cook them without destroying their liquid character. The objection to these infusions is their raw flavour, which to many is highly disagreeable, though some invalids take them without the slightest objection. The best way of covering the raw taste is to add some ordinary beef-tea—or a little of Liebig’s Extract of Meat. Some prefer a flavour communicated by a slice of lemon, or by the addition of a little claret.”

I would offer one or two other suggestions as to the improvement of the appearance and flavour of these valuable infusions. A few drops of the “browning” used for colouring soups, and which can be bought at a good

* Baron Liebig, a very famous physiological chemist.

† A piece of stout, coarse muslin is best, which will stand the strong pressure required in wringing the meat in it.

grocer's, might be tried, or the ordinary beef-tea used to cover the raw taste might be coloured a very deep brown with a little sugar burnt in an iron spoon held into the fire; this would cause the infusion to *look* like ordinary beef-tea. Then to disguise the flavour some vegetable juice (unless forbidden by the doctor, whose opinion should be asked) might be used. Celery or parsley, carrot, etc., might be boiled in a little water and some of this added, or the infusion might in the first instance be made with cold water, in which dried *haricot* beans have been boiled. It ought to be generally known that such water is excellent for making stock for soup, and it is also excellent for making beef-tea. It contains a certain amount of the nourishment of the haricot beans, and is of very nice flavour indeed. One pint of beans washed and put into two quarts of warm water may be simmered briskly for one or two hours, then the water drawn off and allowed to become cold.

Sir William Jenner, many years ago, pointed out the importance of adding vegetable juices to the meat soups made for the sick, and his admonition needs repetition, as people cling to the idea that broths and soups are only desirable on account of the meat juice that is in them, forgetting the valuable properties that also lie in vegetable juices. Carrots, turnips, parsnips, celery, endive, lettuce, parsley, mint, thyme, etc., cut up and put into a muslin bag and boiled, and the juice squeezed into the soup, is a valuable addition to it, if the flavours are not objected to, or the vegetables may be added to the beef-tea during the process of making without being put into a bag, as they will be removed in the straining.

CHAPTER VI.

PREDIGESTED FOODS.

BARON LIEBIG'S was the first successful attempt to obtain for suffering humanity the privilege of being able to have food *digested* as well as *cooked* before being served up. Dr. Pavy was the first to carry the idea into practice, and Sir William Roberts in 1880, in his Lumlein Lectures, directed special attention to the great value of this mode of treating food for invalids; this stimulated the practical chemists, who set to work to prepare extracts available for predigesting purposes in a form easily used by any one.

There are two ways of predigesting food. One is by *Peptonisation*, the other is by means of *malt* infusion.

The exact meaning of Peptonisation may be explained thus. All foods, such as meat, milk, eggs, farinaceous matters, and many vegetables, contain proteid (nitrogenous) matter which is the *basis* of the flesh of the body, *but* before it can be formed into flesh *it must enter the blood*, and it cannot do this until it has been converted into Peptones.

Peptones are substances which are diffusible through animal membrane, while proteids are not.

If food containing both proteids and peptones were placed within a drum made of animal membrane (a bladder, for instance), the peptones would after some time be found to have *passed through* the membrane, while the proteids remained behind. Exactly the same thing happens to food in the body. The proteid matter cannot pass through the lining membrane of the alimentary canal until it has been converted into peptones. In the gastric juice the ferment *pepsin* changes proteid into peptone, but in persons of weak digestion, such as chronic dyspeptics, invalids, convalescents, and sometimes in infants, this ferment is not active enough

to perform the task, therefore in such cases the proteid matter cannot be converted into the substance diffusible through animal membrane, and consequently it cannot pass from the interior of the stomach into the blood and lymphatics, and indigestion, and even absolute starvation from want of nourishment follows.

The *British Medical Journal* says of peptonisation that "its introduction has probably done more than any other therapeutic measure of recent times to lessen infant mortality." Children quite unable to digest the casein of cow's milk, and who vomited it in curds after each meal, no matter how much the milk was diluted, have been able to assimilate, and have thriven upon, cow's milk *peptonised*. It has "worked wonders"* in bringing children, unable to digest milk, and who have been nearly famished, back to plumpness and rosy health again. For sick people, whose digestions are often on a par with those of delicate infants, peptonisation has proved just as valuable, and hundreds of lives have been saved, that would otherwise have perished, since the introduction of this interesting process, and much suffering in illness has been prevented by it. Peptonisation of milk, beef-tea, etc., is accomplished by means of liquor pancreaticus, or by peptonising powders, with the addition of a little bicarbonate of soda. These extracts are prepared from the pancreatic gland, *i.e.*, the sweetbread, which unites in itself the function of the salivary, gastric, and biliary secretions, and thus have also a digestive action on *starchy* foods. A more pronounced effect on starch containing foods is, however, obtained very cheaply by *malt* infusion.

For practical teaching as to the effect of malt infusion as a digestive we are also indebted to Sir William Roberts. To take the process of peptonisation first, it is well to bear in mind that it is extremely simple, so simple that any one can carry it out, but the nature and effect of the process must be considered with a little care if it is to be successfully accomplished.

First, peptonisation means practically predigestion, but

* These were the words used by a lady to whom I had recommended peptonised milk for her baby suffering from constant curd vomiting, when describing its effect upon the child.

there are *degrees* in the process. If it is carried to its full extent the predigested article becomes bitter, and though a rationally minded invalid *may* be induced to take the unpleasant compound, for the sake of its nutriment and in fact as a medicine, we can scarcely hope to induce any one to live upon it, and we cannot expect that infants will take it.* But if the process is only carried on for a short time we can effect a *partial* digestion, and in many cases this is sufficient, as great help is given to the digestive function, while still leaving it something to do. It will of course depend on the case whether the process is to be wholly or partly carried out. If the invalid is in so serious a state as to be quite unable to digest proteids (*i.e.*, to turn them into peptones), then our only resource is to try if the bitterness can be covered by some other flavour, or to give the peptonised food in the form of an injection into the bowel (see page 439). In cases where it is not necessary to proceed so far as entirely to predigest the food, it can be given before it has become bitter, or when the first faint flavour of bitterness has been developed, the taste of this being easily covered. *We can always stop the process by boiling or suspend it by cold.* Digestion can only go on—even in a jug—at the normal heat of the digestive apparatus, somewhere about 100° F. If, therefore, we want to stop the complete digestion of the article, we have but to put it in a saucepan on a quick fire and boil it up. The digesting process which has been going on will be at once destroyed. If, however, we merely wish to *suspend* it (which is sometimes more desirable than destroying it altogether, because then the process is resumed in the warmth of the stomach), the jug must be placed in ice, the cold will arrest the digestive process but will not destroy it.

The peptonising extract (whether in the form of Liquor Pancreaticus or Peptonising Powders, either of which can be used, but should be obtained from a reliable chemist and made by a good firm) must never be added to food at a higher temperature than can be swallowed; if put into things that are at or near boiling point, the process, as said above, will be destroyed.

The use of food completely predigested should only be

* Some infants, however, do not object to the bitterness.

continued for any considerable time by the doctor's orders. The constant use of such food—unless in exceptional cases of serious illness—is injurious, because it leaves the digestive function no work to do, and we all know what happens if any part of the body is unexercised—it becomes weak and helpless. The digestion requires to be exercised in order to keep the flow of its secretions and its mechanical action in healthy workable order, and predigested food should only be used when absolutely needed, should only be used fully digested when this is known to be absolutely necessary, and in such cases its use should not be prolonged after the doctor thinks it may be discontinued. Predigestion answers exactly the same purpose as splints to an injured limb. Rest allows the limb to recover its strength, but if too prolonged will weaken the muscles. By the use of predigested food the stomach and intestines gain time to recover strength for their proper work; if the rest is overdone, weakness results. Another objection to prolonged use of peptonised food is that the bicarbonate of soda, which must be used in the process, is apt to have a lowering effect if continued for a long time.

Recipes for Peptonised Foods.

TO PARTLY PEPTONISE MILK FOR INFANTS.

For this purpose the peptonising powders sold ready prepared in small glass tubes are very convenient. Take a quarter of a pint of fresh cow's milk* and a quarter of a pint of cold water, and put them with one quarter of a peptonising powder into a small clean jug. Place the jug in a basin of water as hot as the hand can bear, and let it stand, shaking it occasionally. In twenty minutes it must be taken out of the water, it may then be sweetened, and if possible a teaspoonful or two of *fresh* (not jar) cream should be added, the milk must then be given to the child. If it should not be ready to take it, either boil the milk or set it in ice. Prepared in exactly the same way, but increasing the quantities, any amount of milk can be peptonised, except that for any but very young infants a smaller quantity

* The milk may be boiled and allowed to grow cold.

of water than the proportion given above can be added to the milk, but as long as it is necessary to peptonise it, a little water to the amount of a quarter of a pint of water to a pint of milk must be mixed with the milk.

SIR WILLIAM ROBERTS' RECIPE FOR PEPTONISING COLD MILK.

"A pint of milk (60° to 65° F., which may be regarded as the ordinary degree of warmth maintained in rooms occupied by invalids*) is diluted with half a pint of lime water or with half a pint of water containing twenty grains of bicarbonate of soda in solution. To this are added three teaspoonfuls of liquor pancreaticus. The mixture is then set aside in a jug† in the sick-room for a period of three or four hours. At the expiration of this time the milk is far advanced in the process of digestion, and has developed a slightly bitter taste. It is now ready for use. It may be used cold, either alone or with soda water, which covers the bitter taste remarkably well, or it may be warmed and sweetened for infants. If it is to be kept it should now be boiled; it is better indeed to use it without boiling, because the half-finished process of digestion will still go on for a time in the stomach."

PEPTONISED MILK GRUEL.

"This is the preparation," says Sir William Roberts, "of which I have had the most experience in the treatment of the sick, and with which I have obtained the most satisfactory results. It may be regarded as an artificially digested bread and milk, and as forming by itself a complete and highly nutritious food for weak digestions. It is very readily made. First, a good thick gruel is made from any of the farinaceous articles. The gruel, while still hot, is added to an equal quantity of cold milk. The mixture will have a temperature of about 125° F. To each pint of this mixture two teaspoonfuls of liquor pancreaticus and twenty grains of bicarbonate of potash are added. It is

* In winter when milk is ice cold, it must be brought up to 60° F.

† Covered.

then set aside in a warm place for two or three hours, and finally raised to the boiling point and strained. The bitterness of the digested milk is almost completely covered in the peptonised milk gruel, and invalids take this compound, if not with relish, without the least objection."

PEPTONISED BEEF-TEA.

Pour a pint of beef-tea, when freshly made with finely minced beef, from off the meat into a jug. Rub the meat into a paste* and put it back into the beef-tea, let it stand till cool enough to swallow. Add a tablespoonful of liquor pancreaticus or a tube of prepared peptonising powder. Stand in a warm place for three hours, shaking occasionally; then boil quickly for two or three minutes, and strain. Any kind of meat or chicken broth can be predigested in the same way.

PEPTONISED MILK JELLY.

Dissolve three-quarters of an ounce of fine gelatine or isinglass (if expense is no object isinglass is preferable) in a third of a pint of tepid water. Make a pint of peptonised milk, *and boil it when sufficiently digested* (from twenty minutes to three hours, according as the patient requires partly or wholly predigested food, see p. 406); add this to the dissolved isinglass or gelatine; sugar, lemon or orange juice to taste, and three tablespoonfuls of rum or brandy, or any wine that may be preferred. Strain through a jelly-bag or fine flannel, and pour into a mould previously rinsed in cold water, and put in a cold place to set.

Note.—If the milk is *not* boiled after being peptonised and before being added to the jelly, the gelatine will be digested as well as the milk, and the jelly will not set.

PEPTONISED MILK BLANC MANGE.

Make as above, leaving out the fruit juice and spirit, flavour with ratifia or vanilla, and add some cream.

Peptonised milk (boiled after predigestion) may be used

* This can be easily done in a pestle and mortar.

for making a shape of corn flour in the usual way, or for making any kind of milk soups or puddings.

Sir William Roberts gives an excellent hint as to peptonised soups, which, he says, "may be prepared in two ways—either by adding meat stock to an equal quantity of peptonised gruel; or, a second and better way, use peptonised gruel, which is quite thin and watery, instead of simple water, for the purpose of extracting shins of beef and other materials employed for the preparation of soup."

Peptonised milk added to plain unpeptonised beef-tea (equal parts) makes an excellent nourishing drink. If the beef-tea is salted and flavoured with a little celery or parsley and a dust of pepper, the bitterness of the milk will probably pass unnoticed.

PEPTONISED FISH SOUP.

An agreeable change for an invalid may be made by boiling the bones and trimmings of turbot, which when cold will form a stiff jelly. This, carefully skimmed, may be added to peptonised milk to form a soup, and flavoured with a little mace, lemon juice, pepper and salt, and thickened with corn flour.

Milk punch may be made with peptonised milk, as it does not curdle on the addition of lemon juice or spirits.

In preparing these peptonised foods the individual taste of the patient must be studied in endeavouring to cover the bitter flavour, if it is necessary to digest the milk entirely. Some like much sugar, others do not; and so with flavours and condiments. It will also depend on the case whether these may be used. In serious illness the doctor's permission must of course be sought.

PREDIGESTING WITH MALT INFUSION.

This is an exceedingly interesting and simple process by which the digestion of starch may be accomplished in a jug or basin as well as, or better than, in the stomach. Sir William Roberts, in his Lumlein Lectures pointed out how an infusion of crushed malt in water was as powerful a digestive of starch as any malt "extract."

PREDIGESTION OF STARCHY FOODS WITH MALT.*

The starch in all starchy foods is of no value as nourishment until in the process of digestion it is converted into what is known as dextrine (a soluble substance which is very closely allied to starch), and then into sugar. As *sugar* it is readily absorbed into the blood, but as *undigested starch* it would not be absorbed. When we remember how many important food-stuffs contain starch (see p. 376), we can see how necessary its proper digestion must be for the nourishment of the body. The ptyalin in the saliva, and another ferment in the pancreatic juice called amylopsin, are the ferments in the body by whose action starch is transformed into sugar. *Precisely the same action upon starch is known to be possessed by the diastase of malt.*

Diastase is a special substance generated during the germination of grain, one part of which is powerful enough to transform two thousand parts of starch into dextrine, and then into sugar. Diastase of malt is therefore, as far as digestion of starch is concerned, identical with ptyalin and amylopsin.

This is important knowledge when we have to feed sick people, because we can use this diastase to accomplish for them what their own digestive ferments cannot do. The diastase of malt is a more powerful digestive of *starch* than the liquor pancreaticus and peptonising powders already mentioned, whose special value is for the conversion of proteids into peptones. It has besides three advantages over them:—1. It is very cheap. 2. It gives no bitter taste, no matter how long the process is continued. 3. It performs its work in a few minutes.

The simplest way to use malt for this purpose is pointed out by Sir William Roberts, to whom we are indebted for very valuable information on the subject. He recommends the use of *malt infusion*, which is made by mixing *crushed malt* with cold water. These are the directions given by him:—"Three ounces, or three piled-up tablespoonfuls of crushed malt, are thoroughly well mixed in a jug with half a pint of cold water. The mixture is allowed to stand over

* Malt is barley or other grain steeped in water till it germinates, and then dried in a kiln, for use in brewing or distilling.

night—that is to say, for ten or twelve hours. The supernatant liquor is then carefully decanted off from the sediment and strained through two or three folds of muslin till it comes through fairly clear and bright. The above quantities yield about six ounces of product. I was surprised to find,” he says, “that the action on starch of the above standard malt infusion was quite as powerful as that of average specimens of malt extract.”

• One tablespoonful of this liquid infusion (the solid sediment is to be thrown away) *thoroughly* mixed with half a pint of gruel, made so thick as to be almost solid, will in a few minutes digest it so that it will become liquid!

I have made a basin of gruel with groats which when cold could be turned upside down without the solid mass falling out, so stiff was it; when slightly warmed, and mixed with a tablespoonful or two of this malt infusion, it became in ten minutes so liquid that it could be poured out like cream!

The practical value of this in feeding the sick is explained by Sir William Roberts thus: “A very important kind of liquid food is furnished by gruels made with the several kinds of cereal or leguminous seeds. Gruels are not by themselves an agreeable kind of food; they lack flavour; but, mixed with milk or beef-tea, they constitute a valuable addition to our resources in feeding the seriously sick. When prepared from the cereal flours in the usual way, they can only be made of feeble nutritive power, if their liquid character is to be preserved. These flours are very rich in starch, and gruels made from them become thick and pasty, if the proportion of flour used in their preparation rise to four or five per cent.; and a gruel of this strength does not contain more than one-half per cent. of proteid matter, but by adding malt infusion they can be made with as much as twenty per cent. of meal, and still maintain the fluid state. Such gruels contain about two per cent. of proteid matter, and about fourteen per cent. of carbohydrates, and are admirably adapted, combined with milk or beef-tea, to supply a varied kind of liquid food of highly nutritious character. Mixtures of this class seem specially suited for the nourishment of cases of typhoid

fever." He also adds, "The trials I have made, in actual practice, of food thus predigested have been highly satisfactory."

We know that in fever, and often in other illnesses, the mouth is dry.

"We may pretty safely conclude," says the above authority, "that whenever the mouth is dry there is diminished supply of salivary diastase." *

There is in consequence diminished power for digesting starch, just as in the stomach in illness there is generally diminished supply of gastric juice and lessened power for converting proteids into peptones. To give a fever patient a basin of solid lentil or oatmeal gruel that could only be eaten with a spoon would of course, notwithstanding the fact that it contains great nourishment, be ridiculous; he would not, or could not, eat it, and if he did he would have no digestive secretion to enable him to assimilate the solid mass. *But* when we can digest it for him in ten minutes in a basin, and give it to him so that even if he be only half conscious, and hardly able to raise his head, he can swallow it from the spout of a feeding-cup, then indeed we have a powerful weapon in our hands with which to fight the fever-fiend, and we are in a better position to carry out the injunctions of the great physician who years ago wished to have for his epitaph the words—

"HE FED FEVERS."

It has not always been possible to "feed fevers." Pouring in nourishment when there exists in the unfortunate patient's body no means of digesting it, is like pouring coal into an engine whose furnace is broken. It may be the best coal, but there is no means of utilising it. But thanks to the science of the nineteenth century, and to the practical efforts principally of Baron Liebig, Dr. Pavy, and Sir William Roberts, attendants on the fever patient can now support his strength with easily swallowed predigested nourishment, can thus tide him over the exhausting struggle that is going on between his vital energies and the deadly microbes of disease, and can thereby give

* *I.e.*, of the ferment that digests starch.

him a hundred chances to one that he would have had in former days of being the survivor in the combat.

The preparation of malt infusion, as we have seen, is so simple that the most uninstructed person can prepare it. It should, as Sir William Roberts truly says, "be regarded as a household remedy." There are but three points that must be borne in mind in making and using it: 1. It is very liable to fermentation, and must be made fresh about every three days. 2. It must never be added to food *until this has cooled enough to be comfortably borne in the mouth*. If put into very hot food its action will be destroyed. As soon, however, *as it has digested the food* sufficiently, this may be heated to any point without injury. 3. Before it is added to any starchy foods they *must* be thoroughly well boiled. Boiling ruptures the cellulose covering of the starch and enables the digestive ferment to act upon it. Cooking is in truth *an important digestive process*. For invalids the thorough cooking of starchy foods is of the *utmost* importance. Crushed malt can be got at most shops where corn, barley, etc., are sold, or the proprietor of such shop can procure it to order. I think it may also be had from a distillery. A bag containing four or five pounds costs about one shilling; and this much will make a large quantity of the infusion. I have kept it for twelve months in a tin canister without injury.

Sir William Roberts directs attention to its advantage from an economical point of view. "Malt extract costs three shillings a pound—the infusion can be made for three farthings a pound." He says "the value of malt extract as a food is but little more than so much syrup; the statements made on this point in the advertisements are ridiculous exaggerations." Its value of course is for the digestion of food. A tablespoonful or two of the malt infusion makes a useful digestive at meal times. It may be mixed with milk or water, or any beverage (not an acid one), and the best way to take it is in sips during the meal. It has a pleasant sweetish taste.

NUTRITIOUS COMPOUNDS WITH MALT INFUSION.

1. Oatmeal, or lentil flour milk gruel, made so thick as

to be solid. Digest till liquid with malt infusion. A tea-cupful of this, with the same of beef-tea, salted and flavoured to taste, mixed with a well-whisked new-laid egg, or the white or yolk of one thoroughly whisked.

2. Water gruel as above, digested. Mix a breakfast-cupful with a tablespoonful of cream. This can be taken by people who cannot take milk.

3. Mutton broth, chicken broth, or veal tea may all be mixed with gruel as above. A well-whisked egg, or cream, can be added at discretion.

A pinch of isinglass dissolved in warm water may be added to any of these to increase their nutritive qualities if necessary.

CHAPTER VII.

SOLID FOODS AND DIET FOR CONVALESCENTS.*

TRIPE.

THIS is excellent food for invalids, it is most digestible, and is now much ordered by doctors.

Recipe.—Tripe can be bought ready prepared for cooking. Wash it well, and put it into warm water and gently boil for an hour till quite tender. Cut it into small pieces. Have the sauce with which it is to be served in a separate saucepan, put in the pieces and simmer them in it for five minutes, and dish up very hot.

Sauce.—With tripe, onion sauce is of course the rule; but when invalids cannot take this a white sauce made as follows is excellent. Mix a breakfast-cup of milk with the same quantity of the water the tripe is boiled in, season by simmering with a little mace, salt, and peppercorns. Strain. Blend *quite smooth* two teaspoonfuls of corn flour in a little cold milk, add to the sauce and boil, stirring well till thick.

A SPATCH COCK.

Cut a tender young fowl (chicken) in two halves. Clean out well. Take one half, rub plenty of butter over it, dust with pepper and salt, and grill from fifteen to twenty minutes, according to size, over a clear fire, on a gridiron, basting with butter as required. If a clear fire and gridiron are not to be had, cook in a Dutch oven before the fire.

ECONOMICAL CHICKEN IN JOINTS.

Fowl are often expensive, and it may not be possible to

* See p. 337 for table showing average time taken for digestion of various foods, and p. 383 for digestible foods for convalescents.

procure one every day off which to cut the small portion required by the invalid. Re-heated or cold fowl is not so digestible as when freshly cooked. A good plan by which one fowl (unless in very hot weather) may be freshly cooked for several days in succession is as follows. Cut off joint of fowl. Place a plate (as a lid) on a saucepan half full of boiling water; when the plate is hot put the piece of fowl upon it, and cover closely with an inverted bowl. It will be cooked in about fifteen minutes. Wipe the edge of plate, and pour over the chicken either parsley sauce or the white sauce given above.

A DIGESTIBLE MUTTON CHOP.

Cook on a plate over a saucepan exactly as above, turning once or twice. It will take from twenty to twenty-five minutes. Cover with parsley or caper sauce.

SHEEP'S TROTTERS.

Order the butcher to prepare "a set of sheep's trotters" (four), which ought to be sent perfectly clean and ready for cooking. Wash and put into warm water and boil till quite tender—an hour or more, according to size. Take them up, slit them in two, remove all hairs, etc., cover with parsley or white sauce.

FISH.

White fish, such as whiting or haddock, are the best for a convalescent beginning to take solid food. They may be filleted and cooked on a plate as directed above for the chop, and covered with white sauce. Ten or fifteen minutes will cook two small fillets. Fried fish is not suited for sick people.

VEAL SWEETBREADS (VERY DIGESTIBLE).

Soak well in tepid water, then put the sweetbread into boiling water and boil for ten minutes—not more. Take it out and put into cold water. This makes it white and firm. Then stew in veal or chicken stock for three-quarters of an hour. Lift out the sweetbread on to a hot dish and cover to keep warm while thickening the gravy, in which it has

been stewed, with a little corn flour blended with milk. When this is done, mix in it a little cream, then put a squeeze of lemon juice over the sweetbread, pour the sauce over it, and serve. Instead of being stewed, the sweetbread may be roasted in a Dutch oven before the fire. Prepare as above, but when taken out of the boiling water, instead of stewing, flour it and roast from twenty-five minutes to three-quarters of an hour, according to size, basting with butter.

STEWED COW-HEEL.

If *thoroughly* stewed this makes a good dish for an invalid, and the water in which it has been stewed makes jelly as good as calves' foot jelly. Cut all the fat away from the cow-heel, and see that it is quite clean. Put into a pot with two quarts of water, let this come to a boil, and pour it off; put the heel down again in same quantity of cold water, and let it simmer for many hours, till perfectly tender. There will remain about one quart of liquor, strain this into a pan and set aside to grow cold. The cow-heel may be served covered with parsley sauce.

JELLY.

When the above liquor is cold skim off all the fat, and put the jelly into a saucepan with half a pound of lump sugar, the juice and thin yellow rind* of one or two lemons, a pinch of saffron (this is only for colouring and may be omitted), nine cloves, half an inch of cinnamon, half a pint of sherry or marsala, the shells and whites of three eggs. Put it on the fire and whisk till it boils. After which it must not be touched but boiled quickly for five minutes, then stand on side of fire for the same time, pour in a teacup of cold water and cover with a cloth, letting it stand for ten minutes. Pass it then three or four times through a jelly-bag to clear.

Calves' feet may be cooked in the same way, only they will not need such long cooking. The liquor will make jelly by following this recipe.

* If all the white part of lemon peel is not carefully removed it will impart a very bitter taste to any preparation with which it is used.

Port wine or champagne jelly can be made in exactly the same way by substituting these for the sherry, but a larger quantity of them may be used.

SAVOURY JELLY.

Make as above, but substitute flavouring of vegetables, which may be boiled in the water before the cow-heel or calves' feet are cooked in it. Pepper and salt to taste.

COFFEE CREAM (A NUTRITIOUS SWEET DISH).

Two eggs, one ounce of gelatine or three-quarters of an ounce of isinglass, three ounces of castor sugar, half a pint of milk, one jar of cream, half a gill of strong coffee. Make a custard with milk and eggs, dissolve the gelatine and sugar in the coffee, whip the cream and stir all lightly into the custard while hot. Pour into mould and set.

CORN FLOUR CAKE.

(Light and digestible for invalid tea table.)

Quarter of a pound of corn flour, two ounces of butter, two ounces of castor sugar, two eggs. Beat butter and sugar to a cream, break in the eggs and beat all well together, then stir in the corn flour, pour into patty pans and bake in moderate oven about half-an-hour.

CHAPTER VIII.

INVALID DRINKS.

"A great deal too much against tea is said by wise people, and a great deal too much of tea is given to the sick by foolish people. When you see the natural and almost universal craving in English sick folk for their 'tea,' you cannot but feel that Nature knows what she is about. There is nothing yet discovered which is a substitute to the English patient for his cup of tea."—MISS NIGHTINGALE.

TEA.

THE reason people "crave" for tea is because it is a stimulant and a "pick-me-up." Tea contains an alkaloid called *theine*, which is something of the same nature as *quinine*, and this is a valuable stimulant to the nervous system. It contains also *tannin*, whose property is astringent (drying). It is the tannin in tea which makes it injurious to delicate people. Here, again, we are indebted to Sir William Roberts for the correction of a wide-spread "delusion."

"Some persons," he says, "have supposed that by infusing tea for a very short time, only two or three minutes, the passing of tannin into the infusion can be avoided. This is a delusion; you can no more have tea without tannin than you can have wine without alcohol. Tannin in the free state (the larger portion in tea is in the free state) is one of the most soluble substances known. If you pour hot water on a little heap of tannin it instantly dissolves like so much pounded sugar. The deterioration of the flavour of tea by long infusion appears to depend on the slower taking up of a bitter principle which is less soluble than tannin, and which, apparently, does not interfere with diastasic action."

What invalids and dyspeptics should do, then, is to avoid *strong* tea. They should drink it very weak and with plenty

of milk, and they should drink it not with, but some time *after* the meal. As much bicarbonate of soda as will lie on a threepenny-piece mixed with an ounce of the dry tea before infusion causes tea to be less injurious to the digestion.

WATER GRUEL.

Can be made with coarse oatmeal, as directed for milk gruel at p. 392, or with very fine oatmeal as follows:—Mix one tablespoonful of this with a wineglassful of cold water into a *very* smooth paste, pour this into a pint of boiling water in a saucepan, boil and stir for fifteen or twenty minutes, add salt or sugar to taste.

BARLEY WATER.

Wash an ounce of pearl barley in cold and then in hot water, and boil in a saucepan with a quart of water, sugar to taste and flavouring of lemon rind, till it is of the required consistence, from half-an-hour to an hour. Barley water is, however, *much* more easily made with Patent barley, according to the directions on the packets. A dessert-spoonful of sweet spirits of nitre in a pint of hot barley water is an excellent drink, taken on going to bed, to promote perspiration when one has caught cold. Barley water is a soothing and excellent drink in any illness except in diarrhoea, and is especially useful in throat and chest complaints.

WHEY.

Make as directed at p. 392, only using a little more rennet, and stand in a hot place. Break up the curd with a fork till small, strain whey off.

WHITE WINE WHEY.

Half a pint of boiling milk, a glass of sherry or marsala, sugar to taste, boil up and strain. Drs. Ashby and Wright recommend instead of wine to add a little brandy to whey made with rennet. They say it agrees better than white wine whey.

TREACLE WHEY (FOR A COLD).

Stir two or three tablespoonfuls of treacle into a pint of boiling milk, boil up well and strain.

TAMARIND WHEY.

Stir in two tablespoonfuls of tamarinds into a pint of boiling milk, boil and strain. (A cooling laxative drink.)

ORANGE WHEY.

Put the juice of one or two oranges into a pint of milk. Boil and strain. (Delicious when cold, especially if iced.)

CREAM OF TARTAR WHEY.

Stir a piled-up teaspoonful of cream of tartar into a pint of boiling milk. Boil, strain, and sweeten. (This is a cooling drink, and helps to make the kidneys act.)

ALUM WHEY.

Quarter of an ounce of powdered alum boiled with a pint of milk. Sweeten. May be flavoured with nutmeg or cinnamon. (An astringent drink.)

SOUR MILK WHEY.

Boil fast a pint of milk which has *only just turned slightly sour*, strain off the whey.

All these can be drank hot or cold.

FLAXSEED (*i.e.*, LINSEED) TEA.

(For irritability of the bladder.)

Boil a cup of linseed (*whole*, not the meal) in a quart of water till like thin gum, sugar and flavour with lemon, or other flavouring.

Ditto for a cough. One pint of water, one ounce whole linseed, juice and thin rind of a small lemon, sugar or sugar candy, a small stick of liquorice. Boil for an hour gently, strain.

TOAST WATER.

Toast well, but don't burn, some pieces of crusty bread, put into a quart jug, fill with *boiling* water. Strain when cold.

LIME WATER.

Put a piece of slaked lime as big as an egg into a wine bottle, fill with water, *cork well*. Shake it and let it stand till next day. Pour off as required without shaking the bottle. As long as any lime is left undissolved the bottle may be filled up with water. Saccharated lime-water, to be had at the chemist's, is a stronger solution than this, and should be used when it is necessary only to use small quantities of an alkaline.

TO KEEP WATER BEAUTIFULLY COLD.

"Take a quart bottle, the thinner the glass the better, or a jug with straight sides, and wrap round it a linen bandage from top to bottom, or pin or sew a piece of linen tightly round it, or pull over it part of the leg of a stocking which will fit closely. Fill the bottle or jug with cold water and stand it in a saucer of water in the shade, close to an open window or door, so that a draught of air may blow upon it. Wet with water at first, and again if necessary."—(DR. RIDGE.)

DRINK IN FEVER.

Iced water is very valuable in high fever. It is better to surround the water jug with broken ice than to put ice in the water, as ice is often impure. Freezing, as a rule, does not kill disease germs. Fever patients should be encouraged to drink as much as possible, because the liquid is a great help in carrying away poisonous matter from the system.

Raspberry vinegar diluted with water, or apple or rhubarb water, made by chopping up these fruits and pouring on boiling water, with lemon and sugar to taste, and allowing them to stand till cold, are all cooling drinks in fever. These latter should not be given in typhoid fever without the doctor's permission.

Cold weak tea is very refreshing to feverish people. A little china tea-pot full of cold tea drawn off the leaves, and with milk and sugar to taste, and placed next the bedside at night, is very refreshing. This is better than a feeding cup when the patient can help himself, as not so likely to spill.

CHAPTER IX.

DIETS FOR VARIOUS STATES OF ILL-HEALTH.

ANÆMIA (POVERTY OF BLOOD).

MILK is very valuable in this condition (see Milk Diet). Koumiss is useful. Fresh meat and eggs are very necessary, and any other nourishing food that can be taken.

ASTHMA.

Diet has an important effect upon asthma. Dr. Hyde Salter, a great authority on the subject, forbids preserved foods of all kinds, dried tongue, sausages, stuffings and seasonings, meat pies, beef steak and kidney puddings, and cheese, nuts, and almonds and raisins. The two last, he says, are "a vicious combination." He recommends milk and water or cocoa in preference to tea or coffee, as ordinary beverages, but a cup of strong coffee is sometimes found to give relief in a bad attack. Food should not be taken late in the evening. The point to aim at is to have the last meal digested *before* bed-time. All stodgy and indigestible food should be avoided. Pastry and sweets tend to produce fermentation, and are therefore very bad for asthmatics.

BILIOUSNESS.

Avoid rich food, pastry, cheese, beer, stout, and all sweet wines. Fried food should be used as little as possible. If a stimulant is necessary, the best is a little Scotch whisky (because less sweet than others) and potash or soda water. A little cayenne pepper with food is a useful stimulant to the digestion for bilious people. Coffee or cocoa is not good for such people. Weak tea is the best beverage.

Any of the foreign mineral waters, such as Hunyadi Janos, Friedrichshall, Carlsbad, Vichy, the Vichy Celestin, or Rubinat, are all good for the liver.

CONSTIPATION.

It is far better to endeavour to overcome this troublesome affection by *dieting* than by *drugging*. Water-drinking is one of the simplest methods of treating it, and one that is too much neglected. A tumblerful of hot or cold water (according to taste) taken half-an-hour before breakfast and the last thing at night, if persisted in and not given up after a day or two, will often be found most efficacious. Barley water as a frequent beverage is also very useful. Fruit before breakfast, stewed fruit at each meal, vegetables of all kinds (nothing is better than fresh salad dressed with plenty of salad oil), coffee or cocoa in preference to tea (because they are not so astringent as the latter), coarse brown bread, honey in the comb, treacle, suet puddings with plenty of suet, fat grilled bacon, and plenty of butter, are all things that the sufferer from constipation should indulge in as much as possible. But the three chief things which of all others are of use are free water-drinking, fatty foods with plenty of butter, *and* the liberal use of *salt* with food. (*Not salted food.*)

Salt is a great help in promoting the secretion of the intestinal juices. This fact is often either not known or overlooked. The want of a proper secretion of the digestive juices, it can easily be understood, must lead to sluggishness of the bowels. The use of fat, and butter, and liquids soften the contents of the intestines, and thus keep them from clogging. *Coarse* brown or whole meal bread acts as a *stimulant* to the intestines. It is the *indigestible* part of such bread that is of use, because being neither digested nor absorbed, it acts as a slight irritant to the bowel and induces it to act. The action of the intestines, as previously mentioned, resembles that of a worm or leech crawling on the ground (from which it is called peristaltic). These creatures alternately gather themselves into a very small space and then stretch out to a great length. The intestines move in just this way when they are in a healthy con-

dition; if they do not, constipation ensues. Anything that strengthens the system—cold or tepid bathing, exercise in the open air, and leading a healthy life, will therefore strengthen the intestines and induce them to act properly. If, also, the dieting is carried out on the lines given above, there ought to be no difficulty in overcoming the trouble. An old doctor of experience has given the following simple and agreeable prescription, which he has found most beneficial. Take half a pound of figs, prick them well with a fork, and cover them with the purest salad oil. Let them soak for twelve hours, and eat one or two every night before going to bed.

Of all things, sufferers from constipation should eschew *fresh bread*.

A good and cheap aperient, when one is absolutely necessary, may be made by boiling a couple of handfuls of senna leaves (which can be got for a trifle from any chemist) with some raisins and sugar in a pint and a half of water for twenty minutes. Then strain into a jug. Take one or two wineglassfuls as a dose.

CONSUMPTION (DECLINE).

When there is an inherited tendency to consumption suitable feeding may do much to ward it off. Fresh milk, butter, eggs, and cream are all very important articles of nourishment for this purpose. *The dearthness of butter* has been said to be a great cause of the increase of this sad disease. Fat contains the germ of new cellular growth, therefore it is an essential means for combating the onslaught of a *wasting* disease like consumption; but *fat* pure and simple is often not digested, and if not digested it will of course fail to nourish. *Cream and butter are the lightest and most digestible forms of fat.* The yolks of eggs also contain a large quantity of fat. Cod-liver oil is a time-honoured remedy, but in many cases it is useless on account of the disgust it causes. The value of *cream* comes in here; it can often be taken and digested when cod-liver oil cannot be tolerated, *but*—and this is very important to remember—neither cod-liver oil nor cream should ever be taken in large doses. Many people think

that if a teaspoonful does good, a tablespoonful will do double as much good. This is a very mistaken idea. A teaspoonful of cod-liver oil or of cream will in nearly all cases be digested and absorbed, whereas a tablespoonful will cause indigestion (oil is *not* easily digested), will therefore not be absorbed, and will be passed away as waste. It is far better to take teaspoonful doses three times a day and be able to continue them for months, than to take tablespoonful doses and have to leave them off at the end of two or three weeks.

Cream will soon cause sickness and indigestion if taken in large quantities. It is best taken by adding a little of it to a small shape of isinglass or corn flour blanc mange made with milk, or to a cup of gruel, or to soup—in cocoa or chocolate—with stewed fruit, etc., but never exceed *a small quantity*, or the end for which it is taken will be defeated.

An admirable way of administering fat to delicate or consumptive people, a way much recommended by physicians nowadays, is to give them *thin bread and butter*. Butter is easily digested when eaten with bread; by giving it in thin slices of course much more butter can be taken than if the bread is cut thick. This is a wrinkle worth remembering.

Foods that are specially flesh-forming, such as lentils, macaroni, and semolina, ought (in the feeding of consumptive people) to be substituted as much as possible for the less nutritious arrowroot, sago, tapioca, and corn flour.

The following is an extremely nourishing drink for use in wasting disease.

Put into a small basin two heaped tablespoonfuls of best lentil flour, add very gradually, blending all the time with the back of a spoon, half a pint of milk, mix till quite smooth, boil in an enamelled iron saucepan, stirring to prevent burning, for twenty minutes, pour into a basin and thin with cold milk until like thick cream, then add to this one or two *well whisked* new-laid eggs, having carefully freed them from the “string” that attaches to the yolk. Put a teacupful of this, well mixed with a dessert-spoonful of fresh cream into a soda-water tumbler, add a teacupful of strong beef-tea salted to taste, and about the same quantity (more

or less, according to taste) of soda, potash, or any other mineral water. The milk and beef-tea may be previously peptonised if necessary, and the thick lentil paste may be thinned by digesting with malt infusion instead of milk. Alterations may be made by mixing the lentil flour with water instead of milk in the first instance, by omitting the eggs or cream or both, by using chicken or other broth instead of beef-tea, and in cases where diarrhœa is a complication a large pinch of isinglass, previously dissolved in warm water, may be added with very good effect. In this latter case an effervescing water had better not be used.

DIARRHŒA.

Dieting in this complaint is very important, just as much so as absolute rest in bed, and medicines. *Fish, fowl, meat, fruit, and vegetables* should be strictly avoided, and all food should be taken just warm: hot or cold foods or drinks increase the complaint. In all cases of diarrhœa and dysentery *isinglass* should be freely used. It is better not to take it in the shape of blanc mange, because then it must be taken cold, but just to dissolve a good pinch of it in a little warm water, and then fill the cup with boiled milk which has cooled. Arrowroot made with milk or water and with a little brandy or port wine added, or corn flour well boiled with milk, boiled bread and milk, and rice well boiled, may all be taken with advantage.

Rice boiled with cinnamon is an excellent remedy for diarrhœa, made as follows:—Four heaped tablespoonfuls of ground rice, half a tablespoonful of cinnamon (this may either be ground, or in pieces which can afterwards be picked out), two quarts of water, boil for an hour.

A teaspoonful of raw dry arrowroot swallowed occasionally is said to cure diarrhœa.

RAW MEAT DIET FOR DIARRHŒA.

(Of adults or young children.)

Though *meat* (*i.e.*, cooked meat eaten in the usual way) is very bad for diarrhœa, *raw meat* carefully prepared is, in chronic diarrhœa and in the wasting diarrhœa that sometimes attacks young children, and is so fatal to them, of

very great value. It may be prepared as directed by Dr. Sydney Ringer: "Take half a pound of lean raw steak, scrape till all the pulp is removed from it, add sugar, and gradually as much milk as will make it of the consistence of arrowroot, flavour with brandy. Strain through a gravy strainer if any fibre is left, as it should be perfectly smooth;" or the meat may be *scraped* very fine, freed carefully from fat or tendon, and taken as a sandwich. Children will readily take this if a little sugar is sprinkled on it. For adults it may be flavoured with a little pepper or salt, or a little warm gravy may be poured over it and the mixture spread between bread and butter.

It is important to remember the difference, in preparing meat for this diet, between *scraping* and *mincing*. In meat that is *minced*, no matter how finely, some of the hard sinewy tendons remain, *and all the tendinous parts of meat are very indigestible when uncooked*. In *scraping*, these hard parts are removed, and only the *pulp* of the meat (which is its albuminous part) remains, *and this is more easily digested raw than cooked*.

Another way of giving raw meat, which may be more acceptable to some, is to chop the meat small, having removed all fat and skin, and pound it well in a mortar with a little water; carefully remove all fibre and sinew, leaving only the creamy substance which results. *This must not be boiled*, but it may be mixed with a little warm, browned beef-tea, or with milk, or may be placed in a cup, which can stand in hot water till the contents are warmed. According to the taste of the patient it can then be flavoured or sweetened.

Mutton can be used instead of beef—preferably, I think. In all these preparations of raw meat the *very best meat* must be used. We can understand the importance of this when we remember that the meat will not have the protective influence of cooking. The preparations must also be made fresh at least twice a day, as of course they do not keep well.

The value of raw meat diet, in all chronic diarrhœas, and in wasting diseases, both for adults and children, is now universally acknowledged. It must not be thought that raw meat is to comprise the entire diet; milk and other

things are to be given according to the case and the medical advice, but raw meat two or three times a day has in many instances a surprisingly beneficial effect.

Diarrhœa in young infants is mostly caused by sour or indigestible food, and is then easily cured, *if taken in time*, by giving a dose of castor oil, which clears away the irritating matter. A tablespoonful of lime water should be given with each bottle of food, and the food must be altered, after a careful search has been made to discover the *cause* of the diarrhœa. The most scrupulous care must be taken as to the cleanliness of feeding-bottles, etc.

DYSPEPSIA.

It goes without saying that diet is an important matter for sufferers from dyspepsia. The cooking that is best suited for dyspeptics is boiling, roasting, toasting, stewing, and steaming. Fried food is particularly unsuited for them; so is meat that is overcooked or re-heated (this latter does not apply to broths, soups, or beef-tea), and vegetables that are raw or underdone. Salt with food is especially necessary for dyspeptic people and all sufferers from indigestion, because it supplies chlorine to the gastric juice and soda to the bile, and assists generally in increasing the gastric secretions. Mustard and a moderate use of cayenne pepper also supply a stimulus to digestion. Coffee is not so good as a beverage for such cases as weak tea. People with feeble digestions should never take strong tea; the astringent effect of the tannin in the tea retards the digestive process, and though this effect is useful for those with strong digestions it is just the reverse for those in whom the digestive process works with difficulty. A little bicarbonate of soda, as much as will lie thick on a sixpence to an ounce of tea, helps to counteract the injurious effect of tea on digestion. The soda should be mixed with the dry tea before it is put into the teapot.

Suet pudding is found to be much more digestible if the flour is mixed with an equal quantity of bread crumbs.

Sufferers from acidity (which proceeds from dyspepsia) should avoid beer and stout, all sweet wines, and sweets of all kinds; these last are very prone to cause acidity. Any

one who finds the deprivation of sweets too much for their strength of mind may use *saccharin*. This is an intensely sweet substance derived from coal-tar, and, as it contains none of the properties of sugar, may be taken safely by those with whom sugar disagrees. It should, however, not be used in unlimited quantities. It can be obtained from any chemist, and a tiny morsel will sweeten as much as several lumps of sugar. It can be used for all sweetening purposes. The addition of some *bicarbonate of potash* to fruit before it is cooked, in the proportion of about an egg-spoonful to the pound of ripe fruit, and rather more for unripe fruit, is recommended by Dr. Burnet to prevent the acidity which in gouty people often follows the eating of fruit.

Pork, veal, ducks, and geese should be avoided by dyspeptics. The simple remedy of a tumbler of *hot water* taken with, or directly after meals, is found by many people to be excellent for indigestion.

ECZEMA.

Sufferers from eczema, with much oozing, need a nourishing diet with plenty of fresh meat, milk, and vegetables, and sometimes in such cases a little stimulant is required. In dry, irritable eczema, stimulants should *not* be taken. In any kind of eczema it is important to abstain from salted and preserved foods, and from sugar and sweets. Saccharin as mentioned above may be used instead of sugar. Dried fruits, coffee, strong condiments and spices, and oatmeal should all be avoided, but fresh fruits and vegetables of all kinds may be freely taken. Baked apples sweetened with saccharin are very useful.

FATTENING FOODS.

The treatment of obesity by diet will be mentioned further on, but for those who are too thin the kinds of food which are most fattening may be briefly given.

Milk, milk gruel, and soups thickened with farinaceous materials, cocoa and chocolate, sugar and sweets, bread and butter, cream, fat, all the farinaceous foods, potatoes, carrots, parsnips, beetroot, stout and porter. Cod-liver oil

is especially useful. It must be remembered, however, that none of these things will fatten *unless* they are digested. It is worse than useless to overload the stomach with such things if they show any symptoms of disagreeing.

The following is recommended by Dr. Pavy as a nutritive and fattening preparation. It can be taken by people who cannot take cod-liver oil.

“Boil an ounce of finely-chopped suet (beef suet is much the best) with a quarter of a pint of water for ten minutes, and press through linen, then add a teaspoonful of bruised cinnamon, an ounce of sugar, and three-quarters of a pint of milk; boil again for ten minutes, and strain.” A wine-glassful may be taken at a time. (If preferred, the sugar may be omitted and a pinch of salt substituted.) “This,” Dr. Pavy says, “constitutes a highly nutritive and fattening article, but if given in excess is apt to derange the alimentary canal and occasion diarrhoea.”

FLATULENCE.

Charcoal lozenges or biscuits are useful for this. An old-fashioned and simple remedy, which is probably as good, is to toast a crust till burnt and eat it.

Half a teaspoonful of bicarbonate of soda in a wineglass of water is a good old cure for this trouble.

For flatulence in babies, Dr. E. Smith recommends a couple of teaspoonfuls of cinnamon water (to be procured at the chemist's) added to the bottle. “I have,” he says, “known infants who were invariably troubled with flatulence after a meal of plain cow's milk and barley water, digest perfectly the same mixture when thus aromatised.”

GOUT.

There are very various opinions among medical men as to the food and drink that may be taken by the gouty. It has become the fashion with a few lately to overthrow the old-established opinion that port wine and champagne are special poisons for the gouty. With this we need not be concerned in these pages; individual cases must be left to their individual medical attendants, but it may be laid down as a general rule that gouty people must live plainly

if they would escape suffering. Their food should be digestible, well chewed, and not too much in quantity; over-eating is nearly as bad as over-drinking where gout is concerned. Pork, veal, duck, goose, dried, potted, and salted or preserved meats, except fat bacon, all rich and highly seasoned foods, and sweets should be partaken of as little as possible. Saccharin should be generally used instead of sugar. A mixture of equal parts of *bicarbonate of potash* and *table salt* is very useful for gouty people to use *instead of plain salt* with their food. This is a diuretic—*i.e.*, it increases the secretion of the kidneys and thus helps to clear away the gouty poison from the system. For the same end Dr. Lauder Brunton recommends pure water as a diuretic and as a means of removing waste products from the system.

People often do not realise the value of water as a washer-out of gouty and rheumatic poisons. The action of the kidneys is a very important one indeed in the removal of waste matters from the body. *All waste matters if not removed decompose and become poisonous.* The flushing of the kidneys, so to speak, with simple fluids such as water, barley water, etc., is then a very valuable means of keeping the blood pure and the “gout fiend” at bay.

Dr. Lauder Brunton advises gouty people to sip a large tumblerful of water (hot or cold), with or without some carbonate or nitrate of potash in it, *night and morning*. Much fluid should not be taken with meals or directly after food. What is absolutely necessary should be taken towards the end of the meal. He mentions the case of one who was “a martyr to gout” who kept himself quite well “so long as he adhered to a rigid diet of white fish, or of fowl, fat bacon, bread and butter, milk puddings, green vegetables, and a little claret. If he omits one or two of the glasses of hot water, symptoms of gout speedily show themselves.”

Constipation is naturally very injurious to gouty people, who should take every precaution against it. Dr. Burney Yeo says that nectarines and peaches, owing to the small quantity of sugar they contain, and strawberries, on account of their richness in alkaline salts (potash, soda, lime), are all well suited to the gouty. (See also stewed fruit, p. 431.)

Baked apples are said to be good for gouty people. The foreign mineral waters, such particularly as the Vichy Celestin, or the Pullna, or Carlsbad waters, are excellent for gout.

INDIGESTION OF MILK (IN INFANTS).

"Sometimes whey mixed with a few teaspoonfuls of boiled milk and a little cream will be kept down, when simply diluted cow's milk is not. I have also tried with success the raw yolk of an egg with whey;* there is plenty of fat and nitrogen in this mixture."—ANGEL MONEY, M.D.

The *casein* of cow's milk being liable to form into tough clots when coagulated by the gastric juice, is in many cases quite impossible of digestion to delicate infants. This casein is, however, the most nitrogenous (proteid or flesh-forming) part of the milk, and if an infant cannot readily take this, and is deprived of its mother's milk, it *must* be supplied with an equivalent proteid or it will assuredly waste away.

The advice of Dr. Cheadle in this matter is therefore highly important. It is taken from his well-known lectures on the "Artificial Feeding of Infants." "Raw meat juice is the most easily digested and restorative of all animal foods; the most valuable of all nitrogenous preparations for children. It may be given freely as a substitute for the casein of milk. It should be prepared by mincing finely the best rump steak, then adding cold water in proportion of one part of water to four of meat. This should be well stirred together and allowed to soak for half-an-hour (cold). The juice should then be forcibly expressed through muslin by twisting it. This process is the result of many experiments made for the purpose of ascertaining the best means of obtaining meat juice of the highest nutritive value. So rich in albuminates (proteids) is it that it coagulates in a solid mass on boiling, and this material is what the child wants for structural purposes and for active vital processes, not inferior extractives, such as form nearly the whole nitrogenous material of beef-tea and broths. Raw meat juice is

* In this case whey made from fresh milk with rennet is meant.

without doubt the best material for supplying proteid to the food of children who cannot digest a sufficient amount of the milk proteid—casein. As much as two or three ounces (four to six tablespoonfuls) of the juice may be given in twenty-four hours, if necessary, in place of milk casein. A possible source of danger lies in the introduction of the cystercus of tapeworm. I have seen four instances of this out of a very large number of cases. In two the parasite was got rid of without serious harm, and in both instances I think the balance of good was largely in favour of the raw meat; the two other cases are still under treatment. In each case the raw meat probably saved the child's life. Moreover, the risk of ingestion of the cystercus is small, if only the finest quality of meat is used for the purpose.* It is astonishing how firm, and hard, and muscular children become on this food. Raw meat pulp, obtained by *scraping* the soft muscle elements from the fibre, may be substituted for the juice, in children ten or twelve months old, with advantage."

The meat juice prepared as above may be given mixed with rennet whey and a little cream—thus all the necessary constituents of a perfect food may be had. One tablespoonful of meat juice to four of whey, with one or two teaspoonfuls of cream, a pinch of salt, and sweetening of sugar will approximate to the elements of cow's milk. These proportions can of course be altered according to the age and digestion of the child.

"The child's stomach may be educated to the digestion of cow's milk," says the above authority, "by careful training. The simplest and cheapest, and one of the best for this purpose, is bread jelly. The formula for this was given many years ago by Dr. Churchill of Dublin. "A thick slice of bread (4 oz.) two or three days old, so as to be dry and sweet, and of seconds flour (richer in proteids and phosphates than finest), is placed in a basin of cold water and allowed to soak for six or eight hours, then all the water is squeezed out; this clears away the lactic acid. Place in fresh water and boil for an hour and a half. This is to break up the starch and change to dextrine and grape

* An additional source of safety would also be, I think, in the use of mutton instead of beef.

sugar. Rub this through a fine hair sieve and allow it to grow cold. It will be then fine jelly."

A tablespoonful of this is to be mixed with water till like thin cream—sugar, a tablespoonful of raw meat juice, and two teaspoonfuls of cream, may then be added. As the child grows stronger on this diet its digestion will also grow stronger, and it will gradually gain power to digest the casein of milk.

LIVER COMPLAINT (CIRRHOSIS).

"In the later periods of cirrhosis there frequently prevails severe intolerance of every kind of food, the stomach rejecting everything in the smallest quantities. The relief afforded by peptonised milk gruel (see p. 407) is most striking."—SIR W. ROBERTS, F.R.S.

Great benefit will be derived from the use of Koumiss in this distressing complaint.

NEURALGIA.

Although in the treatment of neuralgia, alcohol—as brandy, for instance—gives temporary relief, it will be found much more *permanently curative* to put the patient on a light nourishing diet consisting chiefly of milk, cream, and eggs—as far as they can be taken and digested. Milk puddings, soup, and gruels will be more readily digested than plain milk. Fat (bacon, etc.) also will be found very valuable.

OBESITY.

As already mentioned, it is now more than a quarter of a century ago since the "Banting System" created a great sensation among all those who suffered from the not light trouble of growing too fat.

"The man who makes widely known a useful fact or invention," says Mr. Wynter-Blyth, the medical officer of health for St. Marylebone, "is often as useful to the world as the discoverer, and Mr. Banting's little octavo pamphlet, called 'the Letter on Corpulence,' will always be rightly considered an important contribution to practical dietetics. Mr. Banting weighed two hundred and two pounds, or over

fourteen stone. In a little more than twelve months he reduced it by fifty pounds, and became ten stone twelve pounds."

How he did this, without injury to his health, is interesting to know. He had tried all sorts of means for reducing his fat—Turkish Baths, an enormous amount of bodily exercise, "took gallons of physic," went to numerous watering-places, and consulted numbers of physicians. All to no purpose, until he met with Mr. William Harvey, a physician whom he consulted for deafness, and who put him at last on the right track for getting rid of his superfluous flesh. The method was very simple—merely to abstain as much as possible from *bread, butter, milk, sugar, beer, and potatoes*, which had been "the main elements of his existence." He was allowed any kind of meat except veal or pork, but was allowed bacon at breakfast, any kind of fish except salmon, herrings, or eels, any vegetable except potato, parsnip, beetroot, turnip, or carrot, cooked fruit unsweetened, any kind of poultry or game, and any wine except champagne or port. All malt liquors were strictly forbidden. Instead of bread he took a small quantity of dry toast. On these lines the over-fat may diet themselves with advantage. They must abstain from cakes, pastry, and farinaceous foods, but they have plenty of material left for making muscular tissue. In the "Banting System" the *quantities* of food are very small. The general consensus of the best medical authorities to-day approve of the system as far as the *quality* of the food goes, but think that the *quantity* for many people would be too small. Banting was an elderly man. Younger people could not subsist on the small amount of food to which he limited himself without injury to health, but only good can come to the over-stout by ruthlessly cutting short the food articles from which he abstained; all excess of eating should of course be strictly avoided. Nowadays we have *saccharin* to take the place of sugar, so that the self-denial of the diet need not be so severe. Professor Ebstein, a celebrated German authority, strongly animadverts upon the mischief of the disuse of *fat* in curing obesity, and distinctly recommends the use of fat meat, which, he says, does not increase the amount of fat on the body, but, on the contrary, helps to disperse it.

PILES.

In this troublesome complaint, avoid coffee, cayenne, wine and spirits. Take plenty of fluids—water, barley-water, etc., and use fruits and vegetables freely, so that the intestinal contents may not become hard. A dessert-spoonful of olive oil taken every morning half-an-hour before breakfast will be found of *very* great advantage by all who suffer in this way.

RHEUMATISM.

Sweets and beer (*especially the latter*) are particularly injurious to the rheumatic. The complaint comes from an excess of *lactic acid* in the system. Fermentable food increases this. The diet of the "Banting System," in a modified form, is good for rheumatic people, except that in severe rheumatic attacks meat *must not* be taken; but milk and eggs, fish, fowl, or game, and light farinaceous foods, should take its place. In rheumatic fever, giving meat too soon is very apt to cause a relapse. *People are in many cases cured of rheumatism merely by leaving off beer drinking.*

There is a popular error that lemon juice is very good for rheumatism. As the complaint comes from an excess of acid, an alkali (bicarbonate of soda or of potash) should be taken, not more acid.

SCURVY.

Scurvy is a *blood* (not a skin) disease, and is brought on by want of fresh food. The treatment is chiefly by dieting. Potatoes, cabbages, lemons, and oranges are especially anti-scorbutic. Raw meat is a better anti-scorbutic than cooked meat. Fresh milk is also an excellent anti-scorbutic. For scurvy in infants raw meat juice is specially recommended. Dr. Eustace Smith gives this method for making it: "Put two ounces of lean raw mutton, very finely minced, into an earthen vessel, and pour upon the meat enough cold water to cover it. Stand inside the fender, before the fire, for two hours, then strain through a sieve."

All kinds of fresh fruit and vegetables are valuable anti-scorbutics.

URÆMIC VOMITING.

“In advanced Bright’s disease incessant vomiting is sometimes a distressing and intractable symptom. In some cases of this class I have seen the vomiting at once and permanently allayed by the use of peptonised milk gruel. The downward course of the disease may not have been a moment checked, but the relief to the dying patient was great.”—SIR W. ROBERTS, F.R.S.

RECTAL FEEDING.

This is feeding by injecting nourishment into the bowels. In cases of Ulcer of the stomach, Gastric Catarrh, and other conditions, when no food swallowed in the ordinary way can be retained, food injected into the bowel will be absorbed, and by this means many lives have been saved, which would otherwise have been lost by starvation.

About six or eight tablespoonfuls are generally all that can be retained at one time, though with care sometimes more can be given.

Strong beef-tea, with two tablespoonfuls of cream (or good milk), both of which should if possible have been peptonised, the yolk of an egg well whisked, and half a tablespoonful of brandy or one of wine, all well mixed, make a good nutrient enema. This must be injected *very* slowly, *and should remain in the bowel and be absorbed*. The bowel should be cleared out by an enema of plain warm water half-an-hour before the nutrient enema is given. SUPPOSITORIES of milk, beef-tea, etc., in a solidified form, and ready peptonised, can be had at the chemist’s. These preparations are made for passing into the bowel, in which they should remain and be absorbed. They must be well oiled and gently pushed up the bowel passage for two or three inches.

The rest given to the stomach by the use of this means of imparting nourishment is, as well as the sustainment of the patient’s vitality, a very important factor in the curative treatment of some diseases.

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